ELECTRICAL WORLD *News Issue*

MAY 28, 1949

A McGRAW-HILL PUBLICATION

Marshall S. Luthringer, President, Central Illinois Public Service Co

Here are the NEW STANDARDS in G-E high-voltage distribution transformers

Now listed. Now in production.

Standard Ratings
(Single Phase*)

22,900	**High Voltage**	**34,400**
24,100	Tap Voltages	36,200
23,500		35,300
22,300		33,500
21,700		32,600
Kva	**Low Voltage**	**Kva**
25,	2400/4160Y	50,
50, 100,	4800/8320Y	100,
167, 250,	7200/12470Y	167, 250
333, 500	7620/13200Y	333, 500
250,	2520/4360Y	250,
333,	5040/8720Y	333,
500	7560/13090Y	500
	7980/13800Y	
43,800	**High Voltage**	**67,000**
46,200	Tap Voltages	70,600
45,000		68,800
42,600		65,200
41,400		63,400
Kva	**Low Voltage**	**Kva**
50,	2400/4160Y	100,
100,	4800/8320Y	167,
167, 250,	7200/12470Y	250,
333, 500	7620/13200Y	333, 500
250,	2520/4360Y	250,
333,	5040/8720Y	333,
500	7560/13090Y	500
	7980/13800Y	

*For standard three-phase ratings, see G.E. Apparatus Handbook Sect. 5420.

NOW IN LINE WITH "PREFERRED VOLTAGES"

The table at the left lists the ratings which are now standard for General Electric distribution transformers with high voltages above 15,000. These voltages, both on high and low sides, are in accordance with recommendations of the E.E.I.-NEMA Joint Committee on Preferred Voltages. Standard taps are no longer based on a percentage of rated high voltage. Instead, there are two tap voltages above and two tap voltages below rated high voltages—all listed as "preferred."

A TWO-YEAR-OLD STORY—BROUGHT UP TO DATE

This move is a continuation of General Electric's policy introduced in April, 1947—to give transformer users the benefits of quantity production of *standard* products. At that time, transformer ratings below 15,000 volts were changed to conform to industry-wide preference as indicated in the E.E.I.-NEMA Fourth Report. *Now* this program has been extended to include the higher voltage ratings. *Now* the benefits of standardization—lower price levels, faster shipments and improved quality—are available to users of G-E Standard distribution transformers in *all* voltage classes.

FAMOUS SPIRAKORE QUALITY

In these new standard transformers, you still get the Spirakore features that have made General Electric distribution transformers the quality leaders of the industry. You get—

Sealed tank construction—that protects the insulating liquid from moisture and other contaminants in the surrounding air.

Attractive, weather-resisting, Glyptal finish—proved by years of outstanding service to be the most durable of protective finishes—recently improved.

Wound cores of corisil steel which make possible small, lightweight transformers.

Progressive-layer insulation and shielded winding—the combination that gives G-E distribution transformers their remarkable impulse strength.

In short, with these new standard ratings, you get the finest transformers we have ever built—the finest you can buy. *Apparatus Department, General Electric Co., Schenectady 5, New York.*

Spirakore Transformers

GENERAL ELECTRIC

The Electrical Week

Electric companies wondering how best to sell common stock might well study the plan under which General Public Utilities disposed of its New York State Electric & Gas holdings so profitably. GPU's refurbishing of an old stock selling idea not only moved all the securities but saved a lot of money for the seller . . . The Northwest Electric Light & Power Association's Business Development Section devoted its recent meeting to problems of stimulating business . . . In Washington, the Senate not only voted down three attempts to cut government spending bills, but added $180 million to two of them. And it ok'd $500 million for REA loans, as the House had done . . . Pennsylvania Electric Association's Transmission & Distribution Committee spent half a day discussing the design and application of pole-mounted reclosers.

Significant quote—"We have canceled one large steel order and some orders for piping because we expect to get a better price in a few months"—Earle A. Thompson, president of West Penn Electric Co, at the annual meeting of stockholders.

Pennsylvania Power & Light Co is following its annual meeting at Allentown with regional meetings in eastern and central Pennsylvania for stockholders who could not attend.

Japan's war losses were immense. Direct and indirect war losses by industries expressed in percentages were: Steampower, 30; copper refining, 22; and aluminum refining, 24.

The Bureau of Reclamation reports that with continued normal water conditions in the West excellent to fair water supply can be anticipated for its power projects.

There have been more changes in the presidencies of electric utilities so far this year than in the 12 months of 1948.

Atomic power will be available in four years, David E. Lilienthal, chairman of the Atomic Energy Commission, believes. But the cost will be extremely high.

The Rural Electrification Administration has approved loans totaling $1,742,485,858. On these loans borrowers have paid $18,608,509 in advance. Only $1,039,233 is overdue more than 30 days.

Consumers Power Co has cut back its 1949 construction program $6.5 million to $39.5 million. The reason: need for rate increases to raise new capital necessary for construction. Present electric load requirements are being met, and the schedule of completion of additional generating capacity is not affected.

So far this year electric utilities have been favored by nature. There have been no severe snow or sleet storms, floods, or droughts.

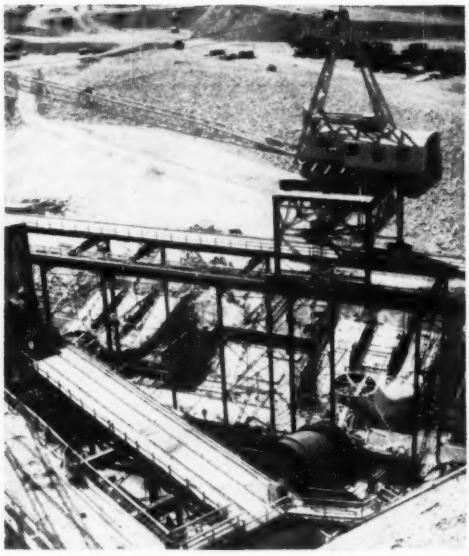
According to a United Press survey of corporations with over $1 billion assets, Consolidated Edison Co of New York is the largest electric utility in the United States (it has some gas and steam properties) with assets of $1,448,676,000. Other industry companies in the billion-dollar group are Commonwealth & Southern Corp, $1,384,551,000; Pacific Gas & Electric Co, $1,131,855,000; Commonwealth Edison Co, Chicago, $1,042,714,000; and American Power & Light Co, $1,006,447,000.

General Electric stockholders certainly won't get rich from the profits the company is making on its atomic energy projects. The company under its contract with the government is allowed only $1 profit. The contract with the Atomic Energy Commission covers work as prime contractor for the operation of Hanford Works, the town of Richland, and the work being done at Schenectady.

Notes From The News

Consolidated Edison Co of New York has offered the city a new ten-year contract to supply power for municipal transit lines, but rates would be 45 to 50% higher. The city would be required to purchase a minimum of 400 million kwhr a year. Present contract expires Dec 31 . . . The Hydro-Electric Power Commission of Ontario has begun its 60 to 25-cycle conversion program. A test area of 14 homes and three factories has been converted . . . CIO United Electrical Workers doesn't like having wages of its members tied to the cost of living, not when it is going down. The union will ask General Motors to dissolve its contract calling for an increase or decrease in wages according to the movement of the government's consumers' price index . . . Willis J. Spaulding.

Continued on following page



WOODEN FORMS for draft tubes at Davis Dam near completion. The tubes will carry water from the five 45,000-kw turbines. The dam is being built by the Bureau of Reclamation and spans the Colorado

who served Springfield, Ill., for over 30 years as commissioner of light, power, and water, was honored at a testimonial May 10, which was attended by 5,000 people . . . TVA's New Johnsonville steam plant is attracting hundreds of jobseekers; but only a few have been hired.

Financial:

Pennsylvania Power & Light Co plans to raise between $6 and $8 million this summer by offering common shares to present stockholders. . . . Mississippi Power & Light Co has filed a charter amendment petition seeking to increase its shares of common stock from 1.5 to 2.5 million. . . . Directors of Florida Power Corp increased the quarterly dividend from 25 to 30¢. . . . Niagara Hudson Power Corp has been given until next Nov 1 to dispose of holdings in Buffalo Niagara Electric Corp under the Holding Company Act. . . . New England Electric System stockholders have approved a proposal to increase the authorized common stock by 1 million shares to 8.5 million and to change the par value from $20 to $1 a share. . . . Stockholders of South Carolina Electric & Gas Co will be offered the right to subscribe to additional common stock on the basis of one new share for each four held. A maximum of 308,000 additional common shares, par value $4.50, have been authorized for offering.

Bangor Hydro-Electric Co has offered stockholders rights on 4,840 shares of 4½% preferred stock, $100 par, and 54,304 shares of $15 par common . . . New York State Electric & Gas Corp has been authorized to issue new preferred and common stocks with par values totaling $5,833,325. The utility may issue 40,000 shares of preferred and 73,333 of common. Rights at one for twelve will be offered stockholders . . . The Economic Cooperation Administration will lend $6 million in drachmas to the Athens-Piraeus Electric Co. The Greek company will install new distribution facilities to increase power output approximately a third . . . By a vote of 4 to 2 the U. S. Supreme Court refused to halt a reorganization plan for the Electric Power & Light Corp. A stockholders' committee had asked an order to stay the reorganization, worked out under Securities and Exchange Commission orders.

Legislation:

Florida's House Appropriations Committee has reported favorably a bill giving the Railroad and Public Utilities Commission regulatory authority over privately owned utilities superseding that of all local boards. Municipal and co-op plants would be exempt. A Senate committee has approved a version of the proposal. . . . Also in Florida, a bill has been introduced that would place an annual 25¢ tax on power and telephone poles placed on state road rights-of-way. It also would require wires to be at least 24 ft above the ground. . . . A Tennessee bill providing for compulsory arbitration of labor disputes in electric utilities has been vetoed by Gov Gordon Browning. Another bill to repeal the anti-closed shop law died in committee.

The Delaware Senate has passed a bill to create a public service commission to control utilities. The bill now goes to the House . . . Ohio's Legislature has turned down a bill that would have allowed construction of a $210 million rubber belt conveyor for carrying coal and iron between Lake Erie and the Ohio River. Railroad, coal, and labor interests opposed it . . . Gov Paul A. Dever of Massachusetts has signed a measure requiring public utility commissioners to be free of any financial interest in public utility companies, directly or indirectly.

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Revamped Idea Speeds Stock Sales

General Public Utilities Corp Sells Holdings in New York State E&G; New Procedure Eliminated Fractional Shares, Made Clerical Work Easier

EVERYBODY's talking about selling common stock, but General Public Utilities Corp did something about it.

What GPU did—in disposing of its equity holdings in the New York State Electric & Gas Corp—was to take an old stock-selling idea and dress it up with a number of new angles. It worked well enough to sell more than $37 million of unseasoned common stock in a market which had been the despair of many utility financial men for almost two years. And this sale paralleled—and competed for funds with—the heaviest splurge of new electric utility common stock selling in at least two years.

New Financing Tool

Basically, GPU's divestment of NYSE&G stock was a sale under rights by a holding company of its interest in a subsidiary company. (The sale came as a result of corporate simplification proceedings under the Holding Company Act, but it was not ordered by SEC.) How GPU seems to have developed a new financing tool for equity-anxious electric utility men is to be found in the new twists it tied to the old "rights" technique. And GPU officials see no reason why the device which worked so well for them cannot be adopted for the sale of new common stock by operating companies. So far as they can see, it isn't merely a device for holding companies which must get rid of their subsidiaries.

It Sold the Stock

Two of the demonstrated results make the GPU technique attractive. For one thing, the offering disposed of 95.59% of the stock offered and left a market good enough that the 4.41% which didn't move under the rights offering was sold immediately after at a $5.25 premium. All of the 787,644 shares offered under rights, plus 92,356 more, were sold at or distinctly above the stipulated offering price. GPU realized a minimum of $522,339 more than the offering price as a result of the sales above that figure.

For a second thing, GPU saved a lot of money over what it would have had to pay had the sale been underwritten. It estimated that an underwritten sale would have cost no less than $2,100,000 in underwriters' fees alone. But under the technique that was used, agents' commissions and dealer-managers' fees totalled approximately $740,000. And, contrary to what might have been expected, there was no unhappiness on the part of investment houses because the deal was not underwritten. Seven hundred and fifty investment brokers throughout the country got an opportunity to earn $1.25 per share for each share they sold or caused to be subscribed by a GPU shareholder.

Still another benefit of the GPU technique was a complete, detailed accounting record of how stockholders respond to such an offering. The figures were available promptly at the expiration of the rights offering because of the techniques by which warrants were handled.

How did all this come about? What were the new wrinkles which GPU added to an old rights technique?

One lay in the provision that shareholders of record who owned GPU stock in less than multiples of 10 shares could subscribe to the next highest number of shares. But this right was not transferable. This privilege eliminated the fractional share problem and the need for machinery to buy and sell odd rights.

Another lay in GPU's offer to buy, during the first 12 days of the 30-day offering period, any right a stockholder might want to sell. GPU guaranteed to pay a minimum of 5¢ per right, or the difference between $41 per share and whatever the stock sold for. The rights always had a "plus" value during the month-long offering. The period closed with rights valued higher than they were at the start.

After 12 days, GPU did not buy the rights, but endeavored—successfully—to sell any warrants delivered to it for the stockholder's account.

GPU adopted a device which had been used earlier by the Columbia Gas system—a combination "warrant-right-letter-of-transmittal," which contained in one document all the forms and data necessary to exercising, transferring, or selling a right. Some savings in printing and handling were achieved this way. If a right holder chose to sub-

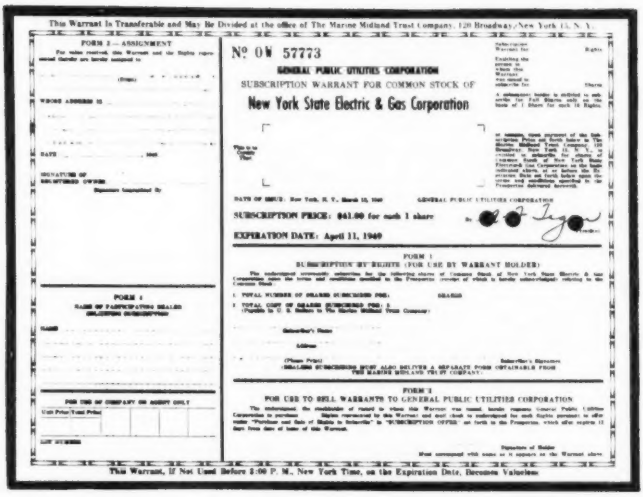
How Stockholders Reacted to $37 Million NYSE&G Rights Offering

Shares Held	Number of Holders	Subscriptions by Original Holders		Rights Purchased by GPU		Assigned to Others (A)		Unexercised	
		No.	%	No.	%	No.	%	No.	%
1	2,110	96	4.55	569	26.97	440	20.85	1,005	47.63
2	2,237	110	4.92	647	28.92	510	22.80	970	43.36
3	1,774	124	6.99	576	32.47	453	25.53	621	35.01
4	513	43	8.38	156	30.41	150	29.24	164	31.97
5	1,968	124	6.30	705	35.82	531	26.98	608	30.90
6	1,360	100	7.35	467	34.34	417	30.66	376	27.65
7	651	39	5.99	217	33.33	191	29.34	204	31.34
8	397	44	11.08	149	37.53	111	27.96	93	23.43
9	773	70	9.05	275	35.58	221	28.59	207	26.78
10	1,221	132	10.81	491	40.21	292	23.92	306	25.06
11-30	14,893	1,623	10.90	5,268	35.37	5,380	36.12	2,622	17.61
31-50	7,112	1,337	18.80	2,285	32.13	2,731	38.40	759	10.67
51-99	5,694	998	17.53	1,884	33.09	2,195	38.55	617	10.83
100-300	12,958	3,367	25.98	2,852	22.01	6,172	47.63	567	4.38
301-500	1,137	353	31.05	164	14.42	588	51.72	32	2.81
501-1,000	717	211	29.44	84	11.71	411	57.32	11	1.53
1,000-Up	524	420	80.15	37	7.06	65	12.41	2	.38
Total	56,039	9,191	16.40	16,826	30.03	20,858	37.22	9,164	16.35

	Total Shares Offered	Subscribed By Original Holders		Shares Sold by GPU Applicable to Rights Purchased		Subscribed By Assignees		Unsubscribed	
	Under Rights	Shares	%	Shares	%	Shares	%	Shares	%
New York State Elec. & Gas Corp.—Shares	787,644	196,406	24.93	178,150	22.62	378,373	48.04	34,715	4.41

(A) Including 5,761 holders whose 213,378 rights were sold for their account by GPU.

HERE ARE FIGURES showing stockholder reaction to an offering of operating electric utility stock under rights. General Public Utilities, to dispose of its holdings of New York State E&G Corp common, offered the securities to its own investors on a 1 for 10 basis. This offering had a number of unusual provisions which helped make the deal a success



This Warrant Is Transferable and May Be Divided at the office of The Marine Midland Trust Company, 120 Broadway, New York 15, N. Y.

FORM 2 — ASSIGNMENT

No 0W 57773

GENERAL PUBLIC UTILITIES CORPORATION

SUBSCRIPTION WARRANT FOR COMMON STOCK OF

New York State Electric & Gas Corporation

SUBSCRIPTION PRICE: $41.00 for each 1 share

EXPIRATION DATE: April 11, 1949

FORM 1

SUBSCRIPTION BY RIGHTS (FOR USE BY WARRANT HOLDER)

FORM 3

FOR USE TO SELL WARRANTS TO GENERAL PUBLIC UTILITIES CORPORATION

This Warrant, If Not Used Before 3:00 P. M., New York Time, on the Expiration Date, Becomes Valueless

SIMPLE AS ABC to dispose of your rights in any of three different ways when this form is used. Depending on whether rights were subscribed, sold to GPU, or assigned to someone else, rights holders filled in the proper form. If a dealer was to receive a commission on the rights exercise, endorsement was made in Form 4. This type of warrant saves both money and handling. But simple as the form was, GPU found that more than 1,000 requests were received for duplicate warrants. And rights for 34,000 shares were unexercised, even though they had a nominal value guaranteed by GPU and a much greater value at all times during the 30-day offering. These shares GPU sold later at $46.25

scribe, he filled out one section of his warrant. If he chose to sell to GPU, he filled out another. If he chose to assign the right, he filled out a third. Where dealers participated to the extent necessary for the $1.25 per share commission, still another blank was filled out.

Dealers worked under the direction of four "dealer-managers," the First Boston Corp; Lehman Bros; Wertheim & Co; and Merrill Lynch, Pierce, Fenner & Beane. The primary duty of the investment bankers was to obtain subscriptions by GPU shareholders and to sell such of the stock as GPU got from its shareholders by purchase of rights.

Active participation of the dealers was promoted by a series of pre-offering meetings in New York, Philadelphia, Chicago, St Louis, Cleveland, Buffalo, San Francisco, Los Angeles, and Dallas. Officials of both GPU and NYSE&G participated in these meetings. GPU's Vice-President H. A. Busch explained at each just why the stock was being sold. Then Board Chairman Ralph Jennison of NYSE&G "sold" the property to the dealers who would have to carry the actual distribution burden.

Exhibits requiring 120 ft of table for mounting were transported in a station wagon from meeting to meeting as another means of acquainting dealers with the system whose securities they were to sell. There wasn't much new about this phase of the deal. But the effectiveness of the promotion with the dealers may be gauged by the 95% complete sale of the securities put out on rights. Altogether, it is estimated that 1,800 to 2,000 securities dealers were reached through the pre-offering meetings.

At the expiration of the 12-day period in which GPU guaranteed to buy back any rights offered to it, a postcard follow-up was made to those GPU shareholders who had neither exercised their rights nor sold them to GPU. The card noted that nothing had been done with the rights and that GPU's purchase offer had expired. But it reiterated GPU's offer to sell them for the shareholder's account and emphasized that the rights had, at the time of mailing, a value of more than 30¢ apiece.

Cards were addressed to every recorded GPU shareholder. Then those which were addressed to investors who had exercised, sold, or assigned their rights were removed and turned back to the postoffice for redemption. That such a check could be made promptly was due in large part to the form of the warrant, which lent itself to easy, day-by-day computation. As a result of the postcard followup, a "flood" of warrants was received by GPU for sale, and some shareholders who had not received their warrants at all were discovered.

As a result of the statistical compilations which GPU was able to get promptly after the close of the offering period, GPU found that despite the long offering period, there seemed to be as many shareholders who delayed action until the last minute as could have been expected with a subscription period half as long.

As for complaints, GPU found very few—something less than 600 from 56,000 shareholders. Many of these arose from the fact that while a shareholder of record could subscribe for a full share of New York stock for fractional GPU holdings, holders of record who were not the beneficial owners could not pass along this right of oversubscription.

GPU's other conclusion was that stockholders are careless with their securities. More than 1,000 duplicate warrants were issued to replace those destroyed or mislaid. This was true in spite of the fact that the warrants made it very plain that the rights had value.

While GPU officials don't say flatly that the same—or a comparable—plan will be used by the company again, the prospect is that it will. When GPU sells Rochester Gas & Electric Corp, it has announced, GPU investors will be given a chance to buy the shares of the operating property. Based on expressions by GPU officials as to the company's satisfaction with the NYSE&G offering, the assumption is that the same plan will be used again.

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Erwin Heads Ohio Utility

Emory D. Erwin has been elected president of the Central Ohio Light & Power Co, Findlay, to succeed Floyd W. Woodcock, who was made chairman of the board. Vice-presidents elected were Paul D. Martinka and L. J. Wissler. Woodcock had been president since the company was organized in 1929. Erwin has been serving as executive vice-president and general manager.

•

Heads New York P&L

Wesley J. Gilson, operating vice-president of New York Power & Light Corp, Albany, has been elected president of the company, succeeding Otto Snyder, who was named chairman of the board. Snyder had been president for 20 years.

Here's why

BURNDY HYDENT CONNECTORS

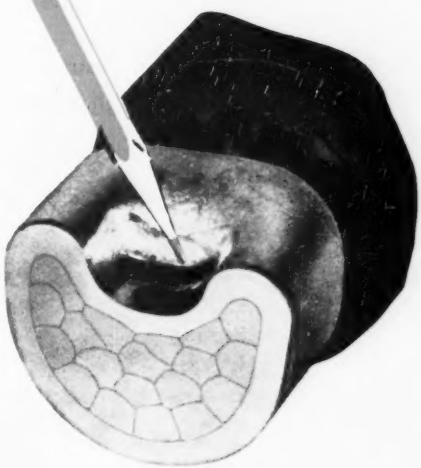
are superior mechanically... electrically

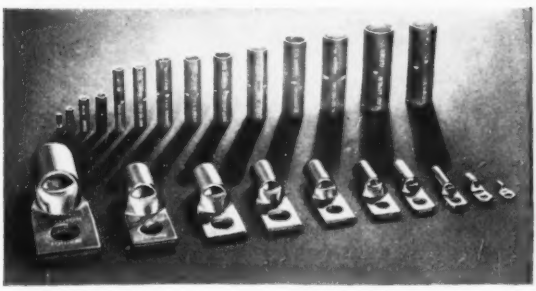
No art tricks . . . this is a cross section photo of a typical HYDENT connection.

Note how the conductor and connector have been compressed into an almost solid mass under high pressure by the Burndy HYPRESS or HYTOOL.

And there's no trick to cutting costs the modern HYDENT way. Just insert conductor, indent with the HYTOOL, and, *presto*, the job is done.

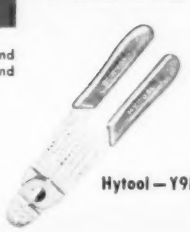
HYDENT connectors are available in all types for conductors #22 through 2000 Mcm . . . all one-piece, pure copper construction, heavily tin-plated. Catalog Y46 gives the complete story. Send for your copy today.





Hydent Connectors range from the smallest sizes used for control, instrument and electronic equipment wiring to the largest cable sizes required in industrial and utility power applications.

Burndy Hytools and Hypresses indent Hydent connectors onto all conductors from #22 to 2000 Mcm.



Hytool—Y9M

Hypress—Y34-A

Connect with

BURNDY

New York 54, N. Y.

WESTERN BRANCH: Vernon 11, California • CANADA: Canadian Line Materials, Ltd., Toronto 13

"You save lives with lumens...

when you install adequate street lighting"

Says: **Elmer L. Lindseth,** ***President,***
Cleveland Electric Illuminating Co.

"MAKING America's streets and highways safe at night calls for the installation of tens of thousands of miles of new, modern street lighting. This is a stupendous undertaking that can be accomplished only by creating nation-wide public appreciation and demand. No organization or group can do this alone. To save the thousands of lives taken each year in after-dark traffic accidents, and by after-dark crime, everyone must do his full share in championing adequate street lighting in his community. Every electric utility that vigorously promotes modern street lighting is doing a civic service which makes good community relations even better."

FOR MORE FACTS...

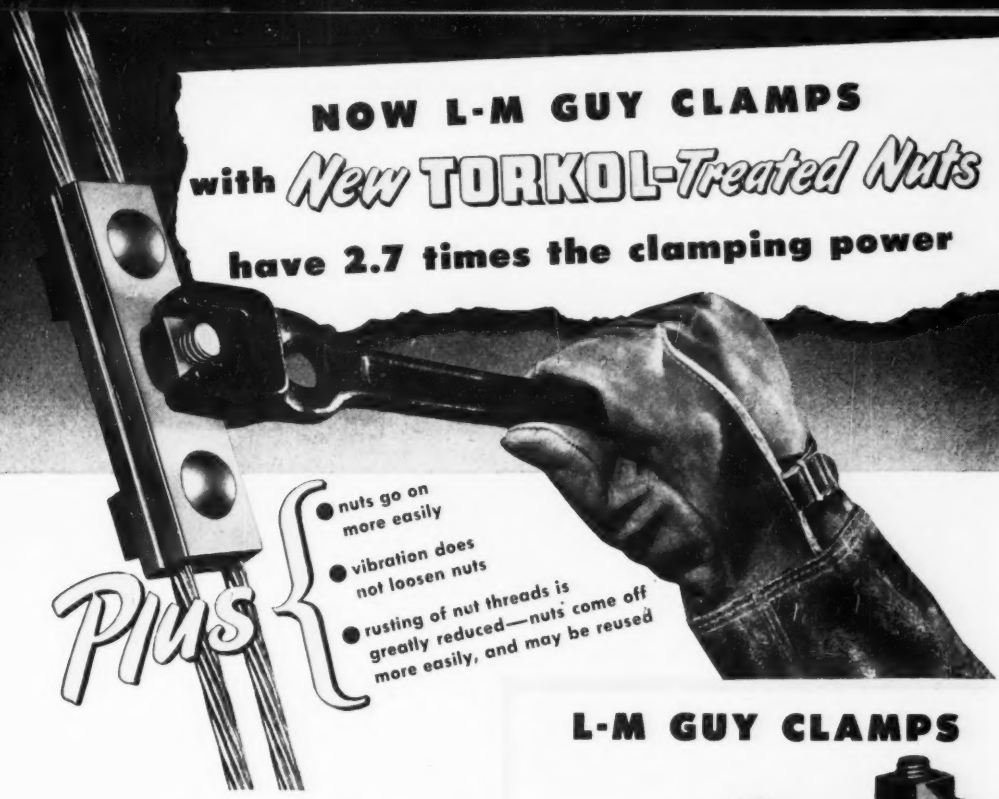
To "shed more light" on methods employed by a utility to stimulate interest in modern street lighting, write for your free copy of "A Planned Program for Better Street Lighting."

The Street and Traffic Safety Lighting Bureau, 155 East 44th St., New York 17, N. Y.

NOW L-M GUY CLAMPS

with *New* TORKOL-*Treated Nuts*

have 2.7 times the clamping power



Plus

- nuts go on more easily
- vibration does not loosen nuts
- rusting of nut threads is greatly reduced—nuts come off more easily, and may be reused

WHAT TORKOL IS AND WHAT IT DOES

TORKOL is an exclusive L-M product applied to the nuts of L-M guy clamps. It is a lubricant that increases the effective clamping power from 2.7 to 3.3 times for any given amount of torque.

Proved by 5 Years of Field Testing . . .

now adopted as standard for these reasons:

TORKOL does not creep or flow to adjacent electrical contacting parts under normal outdoor temperatures; it is not affected by weather changes or rain or sleet.

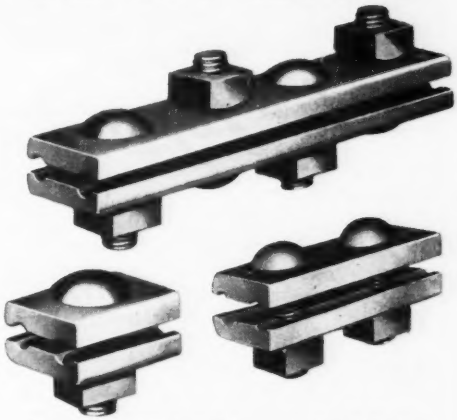
TORKOL is not appreciably displaced when the nut is tightened. Therefore it protects the threads from damage and rusting, permitting easy removal of the nut when desired. And nuts may be reused.

Vibration does not loosen **TORKOL**-treated nuts.

TORKOL is clean, dry. It does not discolor hands, gloves, or clothing. It does not collect dust.

ALL L-M guy clamps are furnished with **high strength bolts.** Nuts only are treated with **TORKOL**, which is colored yellow for identification.

L-M GUY CLAMPS



Heavily galvanized steel, in one to four bolt sizes, from $1\frac{7}{16}$" to 8" long, light or heavy weight, for wires from $\frac{1}{4}$" to $\frac{7}{16}$". Furnished with high strength bolts and **TORKOL**-treated nuts, at **NO extra cost.**

Bolts are opposed as shown. Oval holes in both plates permit inverting the oval shank bolts. Smooth grooves with rounded ends prevent damage to wire.

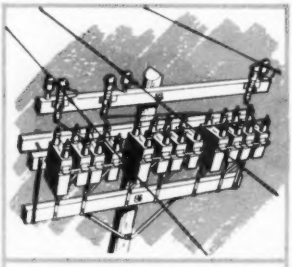
For details on these and other clamps, and samples of **TORKOL**-treated nuts **ask the L-M Field Engineer or write Line Material Company, Milwaukee 1, Wisconsin.**

7124

LINE MATERIAL Pole Line Hardware

Complete Coordinated Equipment for All Distribution Requirements

...for Topnotch Performance!



Capacitors provide the quickest and most economical means of relieving system overloads and improving voltage conditions where low power factor loads prevail. Capacitors may be obtained from stock, and installed costs are low... less than $10 per Kvar.

Moloney Capacitors are built to the highest standards of quality to assure the excellence of performance that is expected of any product bearing the name Moloney. Reliability of performance is insured by high factor of safety in design, expert workmanship, careful processing and thorough testing.

Individual capacitor sections are wound of aluminum foil and pure kraft insulating papers. Winding is done under controlled temperature and humidity conditions to assure uniformly wound, wrinkle-free sections.

Sections are individually tested prior to assembly into complete capacitor packs. Multi-layer major insulation is placed in the case, and then the assembled pack is inserted. Sections are then connected in parallel groups and groups are connected in series, with a discharge resistor across each group. The cover, with the bushings already installed, is then welded into place completing the case.

The capacitor is now ready for drying and filling with Askarel. Moisture and air are removed by thermo-vacuum treatment, following which non-inflammable Askarel is used to impregnate the capacitor pack and to completely fill the case. Next the filler openings are sealed off and the capacitor is pressure tested for leaks. The capacitor is then given its final electrical tests and packed for shipment.

ME49-9

MOLONEY ELECTRIC COMPANY

Sales offices in all principal cities

FACTORIES AT ST. LOUIS 20, MO., AND TORONTO, ONTARIO, CANADA

FUTURE PROGRESS in the Northwest is favorite discussion with this group at the meeting of the Business Development Section of the Northwest Electric Light & Power Association. Left to right, Section Chairman J. F. McAllister, Utah Power & Light Co; Dr Adam S. Bennion, UP&L vice-president; Association President W. L. Thrailkill, Washington Water Power Co; and Berkeley Snow, executive secretary of the Association

More Business for Industry in Area Gets Attention of Northwest Group

MORE BUSINESS and the right to continue to do business occupied the thoughts and program of the Business Development Section, Northwest Electric Light & Power Association, at its annual sales conference, May 9-11, at Salt Lake City. Some 175 representatives of Northwest utilities, manufacturers, distributors and dealers were present.

J. F. McAllister, Utah Power & Light Co, section chairman, cited the pioneers who had made many of the first developments in the Utah Valley as examples for the new pioneering in the industry necessary today.

W. L. Thrailkill, association president and assistant manager of the Washington Water Power Co, reviewed accomplishments in Northwest utility growth during the last decade but noted a change in trend recently, with sales of ranges and refrigerators down 40%. He intimated many companies will take another look at their budgets at midyear.

This, he said, was a new challenge, but the industry had always accepted new challenges and met them. In the Northwest, the arena of the struggle between those who would socialize and those who believe private enterprise is essential to freedom, the challenge is one of selling. Initiative in selling, Thrailkill asserted, is only found in private enterprise.

Quoting "Governed to Death" by Sir Ernest Benn, English economist, Dr Adam S. Bennion, vice-president, Utah Power & Light, offered the conclusion, "We are witnessing in Britain the greatest psychological blunder in history," as a description of the results of socialism. Dr Bennion declared the choice for the people today was between democracy and being swallowed by a socialized state.

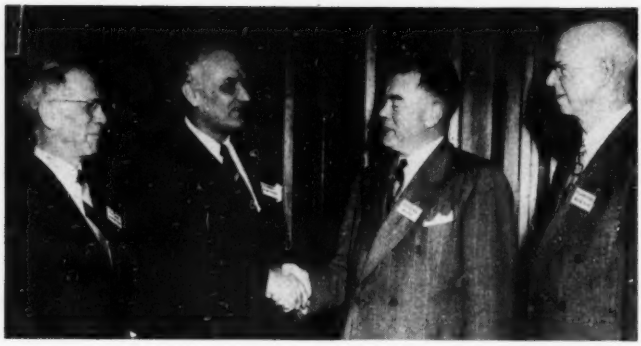
The business development executive should make studies of economic conditions and company trends. Fischer S. Black, editor, ELECTRICAL WORLD, told the opening session. Economic studies are needed as a guide in planning sales programs and to maintain good customer relations.

There is more gold in electric service than has been mined in a hundred years in California, Harold H. Green, Lamp Department, General Electric Co, asserted. Declaring lighting is the mother lode, since 40% of utility revenue comes from lighting, Green turned to the Planned Lighting program for the home to prove his thesis. He set a goal of four times as much lighting in the home as used now. Such an increase would mean 173% increase in connected load, 175% increase in kilowatt hours, 125% in lamp bulb renewals, and $2.5 billion in lighting equipment and installation. The "Sunshine Home" would have 26 portables, 23 fixtures, and a connected load of 5.5 kw. He advocated training personnel to establish 500 ft-c as the practical limit for home illumination.

James T. Coatsworth, commercial director, Edison Electric Institute, prefaced his description of EEI's newest commercial activity for electrical living by discussing some industry trends. The supply of appliances is "running out of the ears" of manufacturers now. The LP gas and the gas industry campaigns for the consumer dollar cannot be taken lightly. Therefore it is necessary to revive prewar sales efforts and techniques. The all-electric kitchen program, with its slogan, "Of Course, It's Electric," is designed to reverse the trend and to make it go toward all-electric living.

George W. Kable, editor, *Electricity*

COMMERCIAL sales problems are something to talk about these days, say W. A. Huckins, left, sales manager, and Roy H. Ashworth, commercial vice-president, Utah Power & Light Co; and Ralph Gale, general commercial manager, Idaho Power Co



LEADERS at opening session of New England Industrial Power Conference, held May 18, at Cambridge, Mass., included C. H. Lang, left, vice-president, General Electric Co; Floyd D. Campbell, president, New England Gas & Electric Association; C. E. H. Palmer, New England manager, GE Apparatus Department; and H. H. Carpenter, power sales engineer, Blackstone Valley Gas & Electric Co. Some 200 persons were present

on the Farm, advocated assisting the farmer not only with his mechanical problems but also with his other overall farming difficulties such as soil errosion, brooding, and marketing. The farmer needs much technical information. The job of serving the farmer with new lines is going to be finished soon, but electrifying the farm completely will never be finished.

N. J. MacDonald, vice-president, Thomas & Betts Co, pointed out the tremendous market there is in the 72 million outlets which lead the parade of appliances, power lines, and generators that will serve the 28 million homes to be built. He termed the adequate wiring program as one exactly tailored to increase good business relations and admonished the industry to quit talking to itself. Instead it should inspire all employees. If they can be made to see the truth that their jobs, security, and advancement depend upon the outlet, they will inspire their friends and neighbors in order to better their own future, MacDonald told the gathering.

Economy Moves Lose to Senate 'Pork Barrel'

Economy lost a series of sharp battles with the "pork barrel" in the Senate last week. But these skirmishes produced signs of mounting Congressional concern over mounting governmental expenditures.

Moves to trim two major fiscal 1950 appropriations bills—those for the Agriculture Department and for Civil Works projects of the Army—were soundly defeated. The Senate upped the Agriculture bill to $723 million, an increase of nearly $22 million over the total approved by the House, and a total of $751 million was voted for Army Civil Works spending—$722,690,000 of it for water control projects of the Corps of Engineers. The Senate added $158 million to the total allowed by the House for Army Civil Works.

The Agriculture Bill provides up to $500 million for REA loans, as authorized also by the House.

Most serious efforts of the Senate economy bloc centered on the Civil Works measure. Republicans attempted to impose reductions of 10%, then 5%, in the total appropriated. These proposals were voted down, 48-29 and 44-34. A surprise amendment calling for a 40% reduction, introduced by Sen Paul Douglas, Democrat of Illinois, was defeated.

The Senate last week also passed legislation enabling the President to reorganize executive agencies.

IES Regional Meeting Stresses Improvements

That nothing is cut and dried about electric lighting progress was apparent May 12-13, when the Illuminating Engineering Society held its Northeastern region conference at Hartford. Joint hosts were the Connecticut Section of IES and G. Fox & Co. Attendance was close to 250.

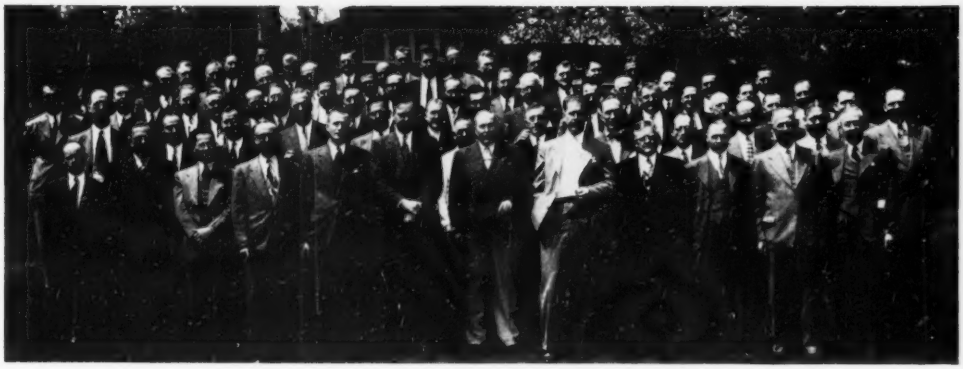
R. G. Slauer, Sylvania Electric Products, Inc, pointed out that the study of flux distribution is fully as important as foot-candle analyses. Fundamental and application research must answer many engineering and commercial queries still awaiting reply. Baseball lighting flourishes best around 200 ft-c. A major question is the commercial field intensities approximating 100 ft-c.

G. J. Kyte, G. Fox & Co, stressed the importance of combining general with concentrated illumination in department stores. It is not too well known that less than 50% of such establishments' floor space is used for goods displays. Behind-the-scenes lighting is vitally important. Flexibility of installations is necessary to meet constant shifts of space assignments in such emporiums. Knowledge of paint and its coordination with color problems is increasingly important.

G. L. Crouch, technical director of IES, outlined current development projects. Among these are anti-fog lighting for airports, interior lighting of public conveyances, study of pavement reflections, unified data sheets, quality and intensity standards, and a study of glare conditions in cattle barns. Home lighting requirements in connection with viewing television sets are under investigation. So are operating room lighting in hospitals, brightness conditions in school lighting, and flicker as a fatigue measurement.

It was reported that in the next five years $20 million may be expended in 265 cities for street lighting programs. Fatalities can be cut 50% by proper highway illumination.

IES PRESIDENT L. E. Tayler, Detroit Edison Co, at extreme left, chats with V. J. Ouellette, illuminating engineer, Hartford Electric Light Co, whose president, Austin D. Barney, listens to Preston S. Millar, president, Electrical Testing Laboratories. Picture was taken at the IES Northeastern regional conference banquet held recently at Hartford



Transmission & Distribution Committee poses with the Irem Temple Country Club, Dallas, Pa., in the background

Pole-Mounted Reclosers Discussed at Meeting of PEA T&D Committee

A HALF-DAY symposium on the design and application of pole-mounted reclosers was a feature of the spring meeting of Pennsylvania Electric Association's Transmission & Distribution Committee, May 12-13, at Dallas, Pa. The program also included an interpretation of industry trends toward the standardization of insulators and line hardware by R. G. Bellezza, president, Locke, Inc, and utilization of stainless steel strand for overhead ground wires by V. H. Godfrey, Page Steel & Wire Division, American Chain & Cable Co.

A state-wide survey of automatic reclosing line sectionalizing devices by K. H. Ishler, Pennsylvania Electric Co, showed a 51% increase during 1948 in the use of oil reclosers, a 31% increase in open-type reclosing devices (other than oil filled), and a 30% drop in the enclosed type (other than oil filled).

Participating in the subsequent demonstration and discussion of recloser application were representatives of the following manufacturers: Railway & Industrial Engineering Co, General Electric Co, James R. Kearney Corp, Kyle Corp, and Westinghouse Electric Corp.

C. E. Hartay, Duquesne Light Co, said that a committee study of transformer fusing practices showed no failures during 1948 in one group of 176 transformers where lightning arresters were installed on the transformer side of the primary fuse. Similar favorable experience on the Philadelphia Electric system was reported.

Movement toward higher secondary voltages among the Pennsylvania utilities, surveyed by J. A. Thielman, Philadelphia Electric, showed that five out of 11 reporting companies are already operating on the 120-v base. Of the others, five now operating on 115-v have considered increasing base voltage. Only one however is far enough along with studies to have reached a decision. The remaining company, listed as operating at 115-v, has increased voltage on a metropolitan wye network area to 120-v.

Study of line hardware simplification by H. R. Wilbur, Metropolitan Edison Co, led the T & D group to recommend the elimination of house service racks in favor of porcelain wire holders. A single size of wire opening ($\frac{3}{4}$ in.) was recommended for the wire holders, which were to have three screw lengths: $2\frac{1}{4}$, 3, and 4 in.

Construction and design features of six 66-kv transmission lines recently placed in operation by Pennsylvania Power & Light Co, Duquesne Light Co, and Potomac Edison Co were described in a series of reports presented by representatives of the various companies. The reports were coordinated and the discussion sponsored by Edward Fritz, Pennsylvania Water & Power Co.

Transformer testing and load recording procedures summarized by R. F. Bovier, Northern Pennsylvania Power Co, show all PEA member companies agreed on a policy of 100% thermal loading and on making full use of short time thermal overload capabilities of the transformer before replacement. Methods of securing loading varied somewhat among reporting companies, however.

Brazos Co-op Receives REA Generation Loan

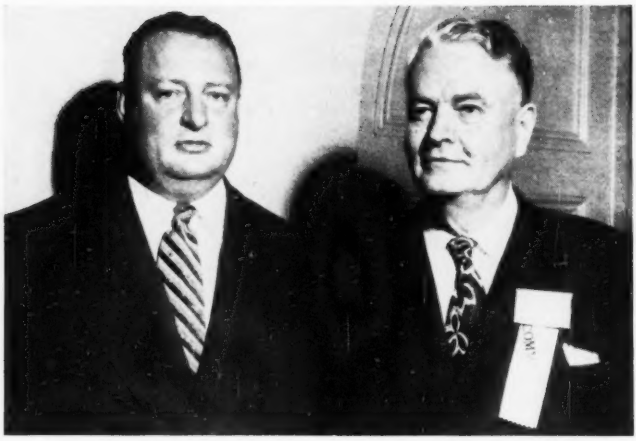
Brazos River Transmission Electric Cooperative obtained a $6,480,000 federal loan recently to expand its generating and transmission facilities in east-central Texas.

The long-discussed loan from the Rural Electrification Administration eventually will add 23,000 kw of steam generating capacity and 211 miles of transmission lines to the Brazos system. It also will enable the co-op to extend its lines to the hydro plant at Whitney Dam, now under construction by the Army Engineers. The Whitney plant, on the Brazos River northwest of Waco, is scheduled for completion in 1953. It will have an initial and ultimate installation of 30,000 kw.

The Brazos co-op plans to use the new REA loan for the following purposes: $4,600,000 for installation of two 11,500-kw steam generating units at its Oak Charter Plant, $1,660,000 for 211 miles of transmission lines and eleven 1,000-kva substations, $106,000 for general plant improvements, and $114,000 for facilities already started.

The co-op previously had obtained REA approval to borrow a total of $8,250,000. By the end of 1948, it had expended nearly $6 million of this amount. Its Oak Charter plant, near Belton, has one 11,500-kw steam unit in operation. Other power suppliers include the Brazos River Conservation and Reclamation District, which operates Morris-Sheppard dam and hydro plant; the Southwestern Power Administration, Lower Colorado River Authority; and Texas Power & Light Co.

Brazos River Co-op serves 19 REA-financed distribution cooperatives and the municipal system of Bryan, also an REA borrower. It operates 880 miles of transmission lines.



JULIUS A. KRUG, left, Secretary of the Interior, and Samuel B. Morris, general manager, Los Angeles Department of Water & Power, president, American Public Power Association

Management Must Hold Public Favor, Krug Says

If management, either public or private, fails to meet the acid tests of progressive thinking, consideration for the public, and real interest in power's place in community development, it will be displaced. This warning was sounded by Secretary of the Interior J. A. Krug at the close of the national convention of the American Public Power Association in Los Angeles, May 10-12. Public bodies, he said, must do the best possible job in rendering electric service to the customer if they are to stay in business.

In an earlier interview he reiterated the Interior Department's strong support of the proposed Columbia Valley Authority, which he described as the most important public power move in a decade.

Gov Earl Warren of California told a luncheon meeting of the group that the large blocks of power needed for continued growth of California must of necessity come from multiple purpose projects that can only be developed by public bodies.

[W. C. Mullendore, president, Southern California Edison Co, took sharp issue with Warren in the local press. He pointed out that private capital in California has built some of the greatest and costliest hydroelectric developments in the world. "There need never be a power shortage in California", he added, "because we are not solely dependent on further development of hydroelectric power. Our oil and gas reserves will not be depleted in the foreseeable future, but if they ever are there is still 500 or 1,000 years' coal supply in nearby Utah."—Editor]

Need for careful reexamination of unrealistic rate schedules in view of increased space heating loads and generally rising costs was voiced at a round table discussion.

Newly elected officers are president, Samuel B. Morris, Los Angeles Department of Water & Power; vice-president, S. R. Finley, Electric Power Board, Chattanooga, Tenn.; and executive vice-president, R. J. Duvall, Board of Public Utilities, Kansas City, Kansas.

SEC RULINGS

Texas Electric Service Co has received authorization to issue and sell 2,000,000 additional shares of its common stock (no par) to its parent, Texas Utilities Co, for $1,000,000, the proceeds to be used to finance, in part, its 1949 construction program, to repay short-term advances by the parent, and for other corporate purposes. (Release No. 8975).

Mississippi Power & Light Co has received authorization to issue and sell 200,000 additional shares of common stock ($10 par) to its parent, Electric Power & Light Corp, for a cash consideration of $3,000,000. Proceeds of the stock sale will be used for construction additions and betterments. Mississippi proposes in the near future to sell to Electric 150,000 shares of its preferred stock. (Release No. 8992).

Rochester Gas & Electric Corp has received authorization to sell $16,677,000 of bonds and 50,000 shares of preferred stock, subject to results of competitive bidding. Proceeds of the 30-year Series I, first mortgage bonds and $100 par, Series G, preferred stock would be used to repay short-term bank notes representing interim financing of construction expenditures, and the balance, if any, would be used for construction purposes. (Release No. 8993).

Arkansas Power & Light Co has been authorized to sell 320,000 shares of its $12.50 par common stock to its parent, Electric Power & Light Corp, for $4,000,000, which is to be used to finance the company's construction program and for other corporate purposes.

Illinois Power Co's award of its 200,000 shares of cumulative serial preferred stock ($50 par) to an underwriting group headed by Merrill Lynch, Pierce, Fenner & Beane, has been cleared. Merrill Lynch submitted the only bid for the stock, providing for a 4.70% dividend rate for the stock and a price to the company of $50.02 per share, resulting in a cost of money to Illinois of 4.6981%. The stock is to be reoffered to the public at $51.65 per share. (Release No. 8997).

Mississippi Power Co has received clearance on its award of $2,000,000 of 30-year first mortgage bonds to an underwriting group headed by Otis & Co. The winning bid provided for a 3% interest rate and a price to the company of 100.10% of principal amount, resulting in a cost of money to Mississippi of 2.9949%. The bonds are to be re-offered to the public at 100.50%. (Release No. 8998).

MEETINGS

Canadian International Trade Fair
Exhibition Grounds, Toronto, Ont., May 30-June 10.

Edison Electric Institute
Annual Meeting, Traymore Hotel, Atlantic City, May 31-June 2; Hydraulic Power Committee, Shirley Savoy Hotel, Denver, Colo., June 22-25.

Pennsylvania Electric Association
Rural and Advertising Committees, Joint Meeting, State College, Pa., June 8-9; Electrical Equipment Committee, Spring Meeting, Roosevelt Hotel, Pittsburgh, Pa., June 13-14; Relay subcommittee, Spring Meeting, Fort Bedford Inn, Bedford, Pa., June 16-17.

Conference on Protective Relaying
Under Auspices of Georgia Tech Engineering Extension Division, Georgia Institute of Technology, Atlanta, Ga., June 16-17.

Public Utilities Advertising Association
Annual Meeting, Netherland Plaza Hotel, Cincinnati, Ohio, June 20-21.

American Institute of Electrical Engineers
Summer General Meeting, New Ocean House, Swampscott, Mass., June 20-24; Pacific General Meeting, Fairmont Hotel, San Francisco, Calif., August 23-26.

American Society for Engineering Education
Annual Convention, Rensselaer Polytechnic Institute, Troy, N. Y., June 20-24.

Northwest Electric Light & Power Association
Accounting & Business Practice Section, Vancouver Hotel, Vancouver, B. C., June 23-24.

American Society for Testing Materials
Annual Meeting, Chalfonte-Haddon Hall Hotel, Atlantic City, June 27-July 1.

Canadian Electrical Association
Annual Meeting, Banff Springs Hotel, Banff, Alberta, Canada, June 28-30.

throw away
your paint brush

get ELEMEX capacitors in Stainless Steel tanks

. . . with L-M "Lifetime" solder-sealed bushings

. . . in 15 and 25 kvar sizes in standard voltage ratings

. . . at NO increase in price

One utility company estimates that it costs $8 per unit to repaint capacitors. *Whatever* it costs is *too much*—when you can get *good* capacitors like ELEMEX in *stainless steel tanks!* And that's not even considering all their other advantages. They're pretty swell jobs; we think it would be worth your time to take a good look at them!

Stainless steel tanks mean no painting, ever! They also mean that the lineman doesn't have to take time to scrape paint to get a good ground. Tanks are "Hydis" treated—for good heat dissipation.

OTHER ELEMEX ADVANTAGES

Uniform terminal elevation—another time-saving feature. The 15's and the 25's have the same terminal elevation above the hanger in each voltage class. No change in leads when you replace or mix 15 *kvar's* with 25's. The 25's are $5\frac{1}{4}$" longer *below* the hanger, so they're easy to identify from the ground. All sizes same width and thickness, fit same hanger bolts.

"Paragroove" Connectors, another L-M "first": wire is just dropped in and clamped; no crossing of leads, no loose parts. **L-M "Lifetime"** solder-sealed bushings keep air out, keep ELEMEX liquid in—permanently.

Low unit stress; conservative design assures long life. **Safer;** discharge resistors across every pack or parallel group of packs. **Individual Testing** of packs, tanks and completed capacitor before, during, and after impregnation assures uniformity, long life.

Continuous individual evacuation, drying, and capillary impregnation with ELEMEX non-inflammable dielectric assure precise control of power factor and capacitance—an exclusive L-M research development.

ELEMEX capacitors have an outstanding 5-year service record . . . negligible rate of failure . . . *not one* leaky bushing . . . and thanks to the L-M braced sealed carton, only one has broken in shipment! A good record, don't you think?

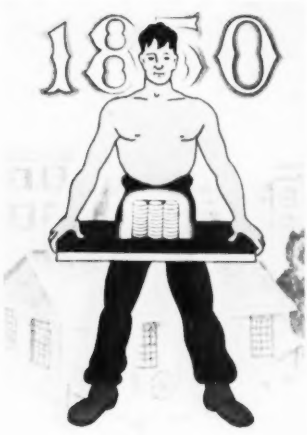
WANT MORE INFORMATION?

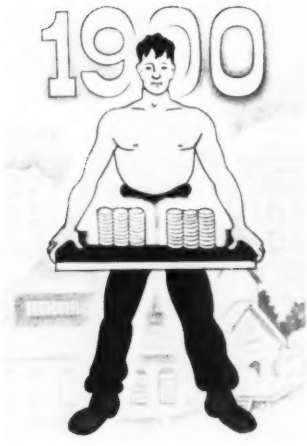
Want details on ELEMEX? Data on capacitor application, uses, savings, power factor calculation? L-M's engineering staff will be glad to help you. **Ask the L-M Field Engineer** to get you the information you need, ***or write*** **Line Material Co., Milwaukee 1, Wisconsin.** 6983

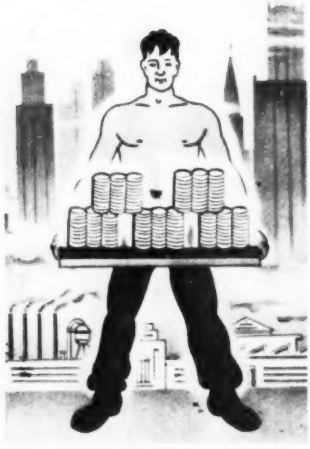
LINE MATERIAL Capacitors

LM

Complete Coordinated Equipment for All Distribution Requirements







PRODUCT

Key to Ple

WE IN AMERICA can have a substantially larger income, and thus a higher standard of living, within the next decade or so. We can raise our national income to these new highs only if our productivity increases at a rate equal to, or better than, the rate of increase of the past 50 to 100 years.

These are the conclusions brought out by "Productivity: Key to Plenty." This 16 mm sound film has just been released by the Twentieth Century Fund and Encyclopedia Britannica Films. It is based on the Fund's study "America's Needs and Resources" by Dr J. Frederic Dewhurst and 26 collaborators.

The film opens with a review of some of the highlights of the American standard of living, most of which Americans take for granted. In animated sequence it is shown that the United States with one fifteenth of the world's population and resources consumes one third of the world's goods and services. What is more important the individual American earns more in terms of goods and services than anyone else in the world. The reason the film indicates is productivity through the employment of machine power. Today that means electric power.

In pictographs (see top of page), the film explains that in 1850 animals were doing one half our work, manpower one fifth, and machine power (mostly water and steam) one third.

By 1900
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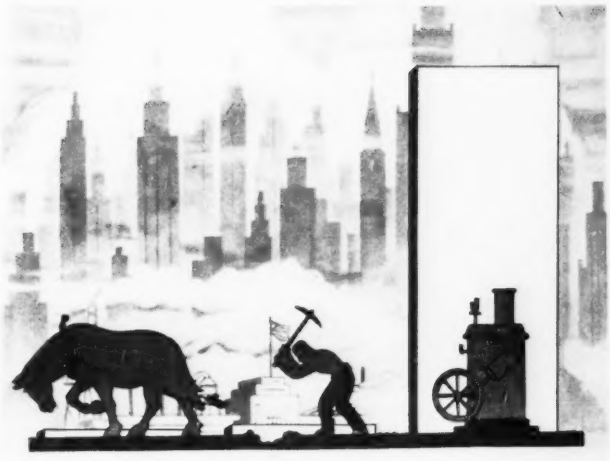

VITY

power was doing only one third of our work, 15%, and machines over half of it. Today n together are doing only 6% of the work. se of the great progress made by the electrical ing 94%.

s change came one in standard of living ased earning power. In 1850 the output per was only about 27¢ in today's buying power at left). By 1900 this had risen to 67¢. e is $1.40. What is even more important have decreased from about 70 a week to

he picture included four professional actors, ssionals, and approximately 60 other persons rts. Many industrial concerns allowed the ke pictures of their facilities. The power er power production facilities pictured are nwealth Edison Co, Chicago.

s considered especially suitable for electric be used for employee or public meetings. out no new ideas but puts in visual form the ca needs production. It is a vivid argument n way of life.

Questions for Discussion

For utilities and other groups which may wish to conduct a discussion session after the showing of "Productivity: Key to Plenty," a list of discussion questions has been prepared. The picture is likely to suggest many others, but the following are enough for the time that the average audience can be held:

1. What are the chief determinants of the standards of living? Why is productivity the key factor.

2. What are the chief advantages of mineral energy over human and animal energy for work?

3. What factors cause high productivity?

4. What are the chief obstacles to increasing productivity? How can they be minimized? What practices of management and labor may prevent gains in productivity?

5. Do machines cause unemployment?

6. How can the human suffering and displacement that sometimes result from technological advances be minimized?

7. How does productivity in the United States compare with that in other countries? What are some of the reasons for the differences?

8. How do psychological and sociological factors influence technological progress?

9. How is investment related to productivity?

10. What can citizens as members of social groups, e.g., unions, investors, voters, consumers, do to help raise productivity still further?

To aid discussion groups and leaders, the Fund has available a 32-page illustrated pamphlet, "Power, Machines, and Plenty." This can be secured from The Twentieth Century Fund, 330 West 42nd Street, New York 18, N. Y., for 20¢ a copy. The film can be bought or rented from the same source.

YOU CAN BE **SURE**.. IF IT'S

Westinghouse

"We no longer purchase conventional transformers"

This testimony of a midwestern operator is backed by his own service records that show "CSP"* Completely Self-Protecting transformers produced these benefits for him:

> "lower distribution cost per dollar invested...fewer service trips...better lightning protection . . . fewer transformer burnouts"

Mark this down as sure: complete self-protection *built in* means less dollar investment for distribution facilities. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-70522-A

**Trademark—Reg. U. S. Pat. Off.*

PROVE IT YOURSELF with this new book that lets you compare Completely Self-Protecting transformers with conventional types—using your own figures for original investment, installation maintenance, depreciation and interest. Ask for B-4247, "Transformer Costs and Their Relation to Profits".

Call the Westinghouse Salesman

Westinghouse "CSP" TRANSFORMERS

SINGLE PHASE THREE PHASE BANKED SECONDARY

FPC Faces Court Test on Navigability Definition

Federal Power Commission apparently is headed for a court test of its recent finding that floating logs constitute "navigation" within the meaning of the Federal Power Act.

In one of its noisier split decisions, FPC last month directed the New York Power & Light Corp to seek a federal license for its proposed Stewart's Bridge dam and hydroelectric plant on the Sacandaga River. Four members of the Commission held that use of the Sacandaga, a tributary of the Hudson, for commercial-scale movement of logs prior to 1926 established it as a "navigable water" of the United States. Chairman Smith disagreed with the navigability finding.

Last week (May 18) New York Power & Light filed a petition for rehearing of the case. If the Commission fails to act on the petition within 30 days or if it refuses a new hearing, the company may take an appeal to court. FPC is unlikely to reopen the proceeding.

The Commission's formal opinion on Stewart's Bridge contained what amounted to a formal debate between Chairman Smith and Commissioner Olds. In addition to the chairman's dissent, the document bore a reply thereto by Olds, plus a final rebuttal by Smith. This public airing of differences limited the prospects for a rehearing, already dimmed by the 4-1 vote backing the logging decision.

The case also has interesting political implications. New York Power & Light filed a declaration of intent to build the Stewart's Bridge project early in 1947. The company selected a site three miles below the existing Conklingville reservoir of the Hudson River Regulating District, an agency of the state of New York. After a hearing, FPC deliberated throughout the election year of 1948 while Gov Thomas E. Dewey's political fortunes waxed and waned.

If, as FPC contends, the entire stream is "navigable," the Hudson River District probably will be required to obtain a federal license for the Conklingville Dam. New York Power & Light operates the power plant at the latter project.

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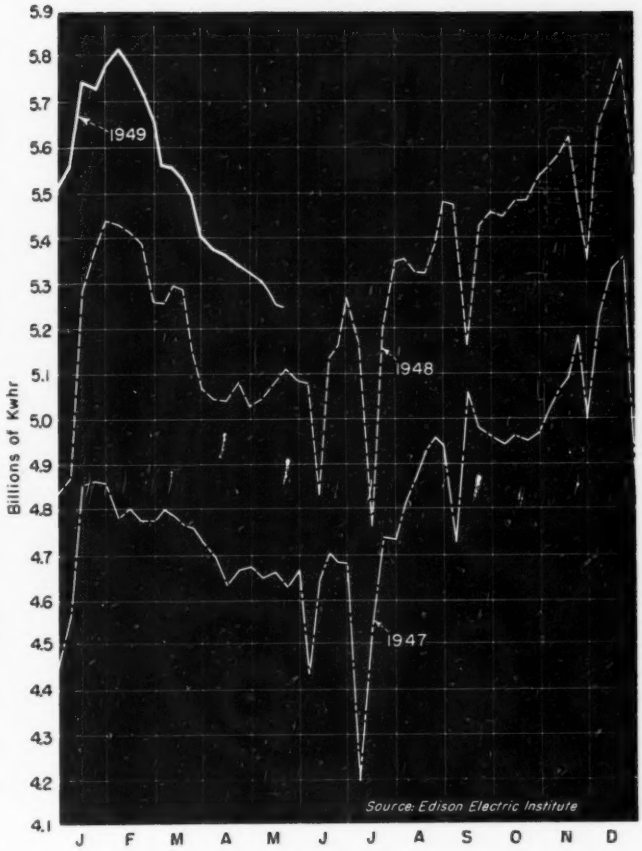
Newport to Buy Utility

Newport, Wash., voters have approved a plan to buy Mountain States Power Co facilities in that city. The purchase would require a $350,000 revenue bond issue.



Output Percent Change at 3.3

During the week ended May 21, 1949, the electric output held firm, with only an unsubstantial change reported from the previous week, according to figures released by the Edison Electric Institute.

The amount of electrical energy distributed by the light and power companies of the country amounted to 5,255,272,000 kwhr, comparing with 5,256,976,000 kwhr for the preceding week.

The total output during the corresponding week last year amounted to 5,085,412,000 kwhr, this year's figure representing an increase of 3.3%. This represents a recovery from that reported for the week ended May 14, when a 2.9% increase was shown.

Both the New England and the Mid-Atlantic States remained in the minus column, the former with an increased loss, and the latter with a reduced loss —New England, 3.5% against 2.7%; Mid-Atlantic, 1.6%, against 3.1%.

South Central and Rocky Mountain were tied for first place.

Weekly Output, Millions Kwhr

1949	1948	1947
May 21 5,255	May 22 5,085	May 24 4,663
May 14 5,257	May 15 5,109	May 17 4,616
May 7 5,284	May 8 5,087	May 10 4,653
Apr 30 5,304	May 1 5,042	May 3 4,640
Apr 23 5,326	Apr 24 5,027	Apr 26 4,668
Apr 16 5,343	Apr 17 5,087	Apr 19 4,660
Apr 9 5,360	Apr 10 5,033	Apr 12 4,620
Apr 2 5,378	Apr 3 5,037	Apr 5 4,693
Mar 26 5,404	Mar 27 5,065	Mar 29 4,729
Mar 19 5,496	Mar 20 5,145	Mar 22 4,759
Mar 12 5,531	Mar 13 5,285	Mar 15 4,764
Mar 5 5,552	Mar 6 5,293	Mar 8 4,787

Percent Change from Previous Year

	May 21	May 14	May 7
New England	— 3.5	— 2.7	— 2.2
Mid-Atlantic	— 1.6	— 3.1	— 2.3
Central Industrial	+ 2.5	— 0.4	+ 0.3
West Central	+ 8.5	+ 8.4	+ 8.0
Southeast	+ 4.4	+ 4.9	+ 5.0
South Central	+ 9.5	+ 9.9	+ 9.1
Rocky Mountain	+ 9.5	+ 8.9	+13.4
Pacific Coast	+ 6.7	+10.5	+13.7
Total United States	+ 3.3	+ 2.9	+ 3.9

IN THE INDUSTRY

RICHARD N. LARKIN

THE GUESSING in Washington is that it will be July before a new labor law is written. But there's an area of agreement even between the partisans. Based on the agreement which has been reached by Congressional leaders of all sides, it's not too difficult today to get an idea of what the forthcoming legislation will contain.

Of perhaps greatest interest to the electric utility business will be the provisions governing strikes affecting national health and safety. In such work stoppages, the President is expected to be able to command the injunctive power. He isn't bound to, of course, and it may be that in the event of a serious power strike over which federal jurisdiction could be asserted successfully, the President might ignore the tool which cut John Lewis so handily down to size. Still, those who should know figure the tool will be available, at least. There's less certainty as to whether the right to seize properties involved in national emergency stoppages will be in the law. AFL and CIO want that power only, without injunction. The Taft-Hartley "die-hards" want only the injunction. New York's Senator Ives, co-leader with Sen Taft of a group supporting Senate amendments which fit the acceptable pattern most neatly, wants the property seizure clause included.

On the closed shop issue, another sticking point with many employers, the new law doubtless will legalize agreements which give unions the first chance to fill jobs. But it isn't anticipated that employers will be prohibited from hiring non-union workers if they choose to do so. The industries which have used the "hiring hall" device will be free to continue it, and states will retain the right to legislate on the subject. This last will preserve the effective restriction on closed shop contracts in the 17 states which now have it.

Foremen and plant guards both will get different treatment under the new law, it appears. That level of supervisor which might be termed "straw boss" probably will regain bargaining protection. Bona fide supervisors probably won't. This division also has the Ives blessing. As for plant guards, the Taft-Hartley edict that they can't be certified in unions which represent rank and file workers is slated to go.

On less pressing issues, the line-up looks about like this:

Workers striking for economic benefits won't lose their right to vote in NLRB elections if their jobs are filled. And management as well as labor will have to sign anti-Communist affidavits to use NLRB.

Unions will still have to file financial reports with NLRB. And the office of the general counsel will return to the jurisdiction of NLRB.

Provisions requiring unions to bargain in good faith will stay, and both sides will have to abide by legal contracts or face action in federal courts. Unions won't have to win an election in order to obtain a union shop contract.

On secondary boycotts, it won't be illegal to refuse to handle struck work. This opens up real possibilities for trouble in electric power strikes, because it could remove the ban on sympathy strikes against systems interconnected with struck utilities.

TECHNICAL NOTES

ARCHER E. KNOWLTON

Double-circuit lines add negligible protection against airplanes than can plunge into either circuit.

Construction specifications would win more wholehearted support if supplemented by a memorandum conveying the reasons for important details.

Restoration after a crippling storm is important but not important enough to warrant any let-down of rules covering protective devices and safety precautions.

Capacitors represent in kva about one for every ten kva of generation capacity; more than a third are regularly switched; four out of five have lightning arrester protection.

Exciter voltages are moving up toward 375 and even 450.

Operation of any remotely administered equipment is essentially a "blind-flying" procedure and therefore the instrumentation must be simple, visible, legible and virtually incapable of misinterpretation.

Outage experience can probably be correlated with inspection and testing practices by some of the same techniques employed in the new art of statistical quality control.

Grounding reflects a diversity of opinion and practice in the matter of distribution circuits and pole-top arrangements. Opposite schools can hardly be completely right.

Obsolescent meters should be replaced if analysis shows that they are losing more revenue and wasting more upkeep than they are saving in investment entries.

Metropolitan areas are due for reenforcement of bulk supply; inner subtransmission loops of overhead construction are facilitated if railroad rights of way can be negotiated.

MANUFACTURERS and MARKETS

LATEST DEVELOPMENT of the Reliance Electric & Engineering Co, a "packaged" portable d-c power center designed specially for continuous mining machines, drew considerable attention from nearly 100 northern Ohio stockholders of the company, who attended the Reliance exhibit at the Coal Show held recently in Cleveland. Welcomed personally by J. W. Corey, Reliance president, the stockholders had come at his invitation to see and hear all about Reliance products and their end-uses in the coal mining industry. The 300-kw motor-generator set which Corey (with flashlight) is explaining to this stockholder group supplied power to continuous mining equipment which was on display at the show

Inaugurates Innovation in Stockholder Relations

"What are the company's possibilities for the coming year? How will new products contribute toward greater sales volume? In what industries are gains most likely to be made?"

Questions such as these and others like them are frequently asked of management and operating executives by shareholders in many medium-sized manufacturing companies, particularly where their products are intended for "heavy industries" in which their utilization is seldom seen or heard about directly by stockholders.

To give its shareholders the opportunity of learning more at first hand about its products, their application scope and sales potentials throughout American industry, the Reliance Electric & Engineering Co, Cleveland, has inaugurated a new custom in connection with the company's exhibits at various industrial expositions throughout the country in which the company will participate. Reliance stockholders of the area in which a trade show is to be held are invited to attend the company's exhibit as special guests of J. W. Corey, president.

This new idea in furthering better stockholder relations was first put into practice by Reliance at the four-day American Mining Congress Coal Exposition and Convention held recently in Cleveland. Nearly 100 Reliance stockholders from northern Ohio accepted Mr Corey's invitation, bringing their wives and husbands.

These guests and other visitors not only saw Reliance products specially designed for coal industry application, but also showed particular interest in a new 300-kw motor-generator set. A Reliance-developed "portable power center" factory-assembled in two electrically-interconnected skid-mounted "packages," this unit is designed to keep pace with the speededup mining operations made possible by recently developed continuous mining machines.

Of the Reliance stockholder group, who attended the Reliance exhibit at the Coal Show, 29 were women. Each stockholder was escorted by an employee through the various exhibits showing equipment powered by Reliance motors.

Publishes Chart to Aid Marshall Plan Suppliers

A chart, which illustrates the manner in which American industrial firms can benefit by Marshall Plan sales to participating countries, has been prepared and released by the Westinghouse Electric International Co in New York.

The six-color, 30x40-in. chart entitled "The Marshall Plan Sales Planner" has been compiled with the aid of official ECA figures and estimates. It depicts graphically what types of products will be purchased under the Marshall Plan during 1949 and 1950, the approximate dollar volume of such purchases at current prices, and the percentage distribution of these products both as to source and as to destination. The chart outlines in graph form the 12 steps American suppliers should take to secure ECA orders and collect payment in dollars.

The chart was prepared in the public interest by Westinghouse to help industry take advantage of the benefits afforded by the Marshall Plan. According to the chart, business will benefit in the following ways: (1) by helping Western European countries by 1952 to bring their economies to a point where they can carry on trade without extraordinary outside assistance, (2) by encouraging greater industrialization of both Marshall Plan countries and other nations abroad, and (3) by financing immediate purchase from U. S. manufacturers of approximately $50,000,000,000 worth of goods during 1949 and 1950.

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Reenters Range Field

Borg-Warner Corp's Detroit vapor stove division is reentering the electric range field, E. R. Bridge, sales manager, has announced. The new line,

which is the division's first electric range line since 1939, will be shown formally for the first time at the American Furniture Mart in Chicago in July.

•

Butyl-Molded Instrument Transformer Announced

First successful application of the butyl-molding technique to the manufacture of instrument transformers was announced by General Electric executives on May 28 at a New York City press conference, introducing the new butyl-molded Type JKM-3 instrument current transformer for 5 kv systems.

N. M. DuChemin, manager of the GE meter and instrument divisions, I. F. Kinnard, engineering manager of the divisions, and E. H. Howell, sales manager of the divisions, described the development.

Mr Kinnard, who directed the work of GE engineers in developing the new butyl-molded transformer, described it as one which "has revolutionized the design and manufacture of dry-type instrument transformers."

"Laborious handwrapping methods of insulation," he said, "have been replaced by a molding process that gives homogeneous insulation of unit construction with appearance and performance characteristics far superior to older designs. A new concept of insulation has been introduced, not only for instrument transformers, but for other electromagnetic devices as well."

More than 25 different insulation materials were tested over a period of almost 20 years before one of the group of synthetic elastomers known as butyl was tried with promising results.

Tests show the properties of the special butyl compound to be ideally suited for the purpose.

DuChemin pointed out that the long-range plans of his divisions include extending the butyl-molded insulation and other improvements of the JKM-3 to all dry-type instrument transformers in both the lower and higher voltages and for both indoor and outdoor service.

•

Opens New Electrode Plant

Eutectic Welding Alloys Corp, New York, has opened a new plant in Flushing, New York, occupying approximately 100,000 sq ft. The new plant houses a foundry, metal rolling and drawing plant, several large extrusion presses for producing coated electrodes as well as alloy cutting facilities. It will also contain a complete gas welding division plus special control and research laboratories.

NEW ELECTRICAL CONSTRUCTION

A weekly selection of U. S. electrical construction projects announced by private and government utility systems involving more than $70,000. Also listed are major industrial and construction jobs where electrical work is indicated or implied

UTILITIES

Proposed Construction

Arizona-Nevada — Bureau Reclamation, Dpt. Interior, Aviola Bldg., Phoenix, Ariz., Tucson-Cochise, 115-kilovolt transmission line, Spec. 2672. L. N. McClellan, Bldg. 1-A, Denver Federal Center, Denver, Colo., ch. engr.

Arizona—Bureau Reclamation, Phoenix, foundations and erecting steel towers for Mesa-Coolidge 230 kw. transmission line Davis Dam Project, from Mesa to Coolidge, Spec. 2670.

Colorado — Mountain View Electric Assn., Limon, 91 mi. rural distr. lines, headquarters facilities, two-way radio sys., and completing previously approved constr. **$192,000.** Flora Eng. Co., 1717 E. Colfax Ave., Denver, consult. engr.

Conn., Groton—Municipal Electric Power Dpt., 359 Thames St., power plant imprv. **$200,000.**

Georgia—Jackson Electric Membership Co-operative, Jackson, 150 mi. rural distr. lines, in Barrow, Jackson, Hall and Banks Counties, Paterson & De War, Rutland Bldg., Decatur, engrs.

Ia., Council Bluffs—Iowa Power & Light Co., 312 6 St., Des Moines, power plant, **$5,000,000.**

Ia., Traer—City, City Hall, light plant imprvs., $90,000. Plans deposit $25. E. L. Patera, Royal Union Bldg., Des Moines, Zone 9, engr.

Kansas—Co-operative Power & Light Co., Iola, 180 mi. rural distr. lines, sys. imprvs., new tie lines and completing previously approved construction in Allen, Neosho, Anderson, Woodson, Wilson and Bourbon Counties. **$492,000.** Frank Horton & Co., Lamar, Mo., consult. engrs.

Ky., Newport—$60,000. S. Eng., 820 W. Broadway, Louisville, pumping plants, incl. 3 pump. stations, equip., transformer substations, sluice gates, pump discharge piping and approx. 16,000 cu. yd. levee embankment. $500,000. Plans deposit $15.

Minnesota—Mille Lacs Region Co-operative Power & Light Assn., Aitkin, 159 mi. rural distr. lines, Aitkin, Mille Lacs and Crow Wing Counties, (Minnesota F. & G. Aitkin). $170,000. Plans deposit $25. United Engr. Service, 600 Kasota Bldg., Minneapolis, engrs.

Missouri—Barry Electric Co-operative, Cassville, Mo., rural distr. lines, tie lines, headquarters facilities, two-radio. Barry Co. **$190,000.** Frank Horton & Co., Lamar, engrs.

Nebraska—McCook Rural Public Power Dist., McCook, rural distr. lines, McCook Co. **$765,000.** P. L. Burns, 630 Davenport Bank Bldg., Davenport, Ia., consult. engr.

N. Y., Brooklyn—Consolidated Edison Co. of New York, Inc., 4 Irving Pl., New York, Zone 3, 1 story electric generating station, 196 John St. **$2,500,000.** Theron R. Galloway, c/o owner, engr.

N. Y., New York—Bd. Transportation, 250 Hudson St., Zone 13, furnishing, installing power equip. for Dyre Avenue Line, IRT Div., Bronx Boro. Contr. P-61.

North Dakota—James Valley Electric Co-operative, Edgeley, 416 mi. rural distr. lines, LaMoure Co. $425,000.

Oklahoma—U. S. Eng., P. O. Box 61, 2,000 N. Memorial Dr., Tulsa, 4 sets hydraulic turbine governing equip. for Fort Gibson Dam. $80,000.

Oregon—Bonneville Power Admin., 729 N. E. Oregon St., Portland, Zone 8, clearing right-of-way 23.6 mi. Forest Grove-McMinnville 115 kv. transmission line, Washington and Yamhill Counties, Inv. 4604. Plans deposit $5.

South Dakota and Nebraska—Cherry-Todd Electric Co-operative, Mission, S. D., 491 mi. rural distr. lines, 20 mi. transmission line, Mellette and Todd Counties, S. D. and Cherry Co., Neb. **$810,000.** D. O. Flahart, Rapid City, S. D., consult. engr.

South Dakota — Intercounty Electric Assn., Mitchell, completing previously approved construction, 25 mi. 33 kv rural distr. lines, headquarters, and 695 mi. rural distr. lines, Hanson, Davison, Sanborn and Miner Counties. **$1,185,000.** Buell & Winter, Insurance Exchange Bldg., Sioux City, Ia., consult. engrs.

South Dakota — Tri-County Electric Assn., Plankinton, 695 mi. rural distr. lines, completing previously approved constr., Aurora, Jerauld, Brule and Buffalo Counties. **$910,000.** Raymond H. Reed & Co., Columbus, Neb., consult. engrs.

South Dakota — Upper Grand Electric Assn., Lemmon, 455 mi. rural distr. lines, requisition and re-habilitation generating plant, acquisition 21 2 mi. old rural distr. lines and 3½ mi. old rural distr. lines, Perkins, Meade and Harding Counties. **$620,000.** Scott Eng. Co., Watertown, consult. engr.

South Dakota—Whetstone Valley Electric Assn., Millbank, 128 mi. rural distr. lines, sys. imprvs., new tie line, headquarters facilities and completing previously approved constr., Grant Co. **$348,000.** Banister Eng. Co., 1549 University Ave., St. Paul, Minn., consult. engr.

Tenn., Columbia—City, exten., and imprv. city electric power sys. **$300,000.**

Tex., Belton—Brazos River Transmission Electric Co-operative, Waco, two 11,500 kw. steam generating units in Oak Charter Plant, near here, 211 mi. transmission lines, new sub-station and general plant imprvs., Bell Co. **$6,480,000.**

Tex., Dallas—Dallas Power & Light Co., Dallas Power & Light Bldg., 60,000 kw. turbine-generator electric power unit, to be known as Parksdale Power Plant, on the East Side. **$3,000,000.**

Utah, Springville — City, Wm. Bringhurst, recdr., voted **$400,000** bonds municipal light and power plant imprvs. L. E. Wiscomb, city engr.

Washington—Bonneville Power Admin., 729 N. E. Oregon, Portland 8, Ore., Snohomish substation addns., Inv. 4616. Plans deposit $25.

Washington—Bonneville Power Admin., 729 N. E. Oregon St., Portland 8, Ore., clearing right-of-way 21.7 mi. for North Bonneville-Troutdale 230 kv. transmission line, Skamania and Clark Counties, Inv. 4610. Plans deposit $25.

Low Bidders & Contracts Awarded

Massachusetts—Boston Edison Co., 39 Boylston St., Boston, 16 mi. high power transmission lines, Waltham through Lincoln, Wayland, Sudbury, Framingham, Natick, Sherborn, and Weston. Owner builds. **$1,176,000.**

INDUSTRIAL, COMMERCIAL & PUBLIC BUILDINGS

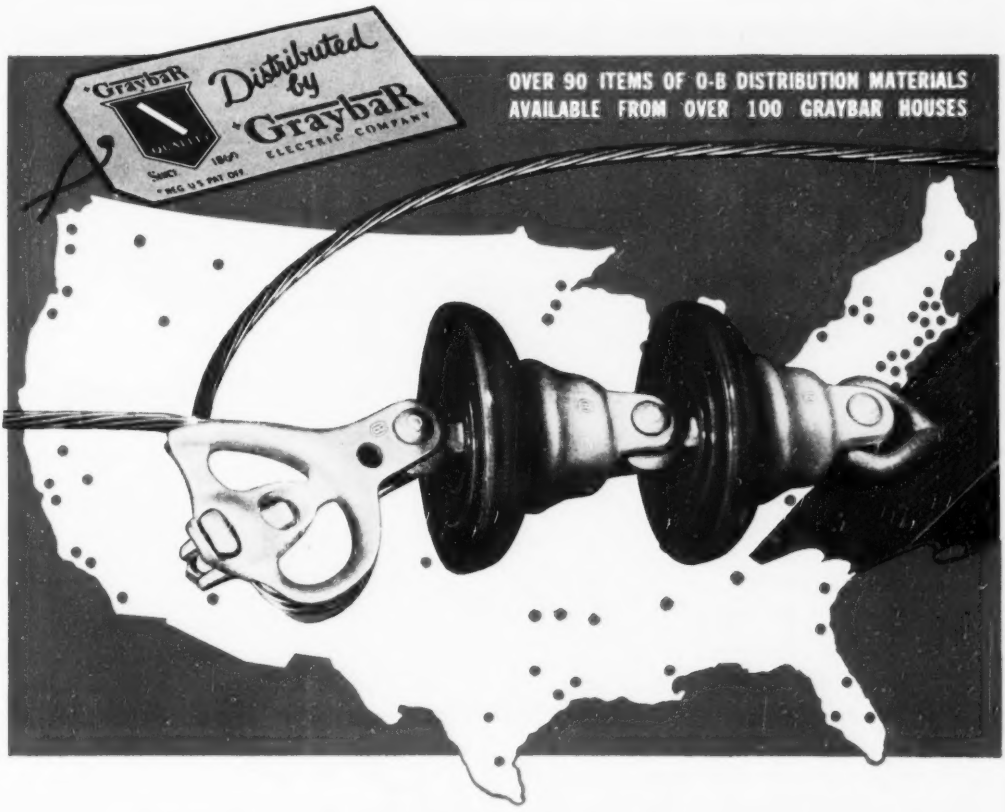
Proposed Construction

Tex., Houston—Miles Strickland, 2nd Natl. Bank Bldg., plans by Dunaway & Jones, 4919 Montrose Blvd., masonry, concrete steel type shopping center. **$10,000,000.**

Wis., Milwaukee — Bd. Vocational & Adult Education, 1015 N. 6 St., Zone 2, vocational school addn. **$3,000,000.**

Low Bidders & Contracts Awarded

Pa., Phila.—Mayer I. Blum & Sons, 2601 Parkway, apartment, Wissohickon Ave. and School House Lane, to Turner Constr. Co., 1500 Walnut St., **$5,500,000.** Arthur F. Deam, 2601 Parkway, archt. Julius Dorman, 1411 Walnut St., engr.



NOW YOU CAN GET THE BEST DISTRIBUTION DEADENDS

Over The Counter

IN MORE THAN 100 CITIES

This deadend make-up for urban distribution circuits puts high electrical and mechanical reliability *where you need it!* Its ultimate strength is 10,000 pounds; dry flashover, 120 kv; wet flashover, 55 kv. This will make your deadends strong points against all operating hazards. Modern construction is rapidly trending toward this safe, efficient practice.

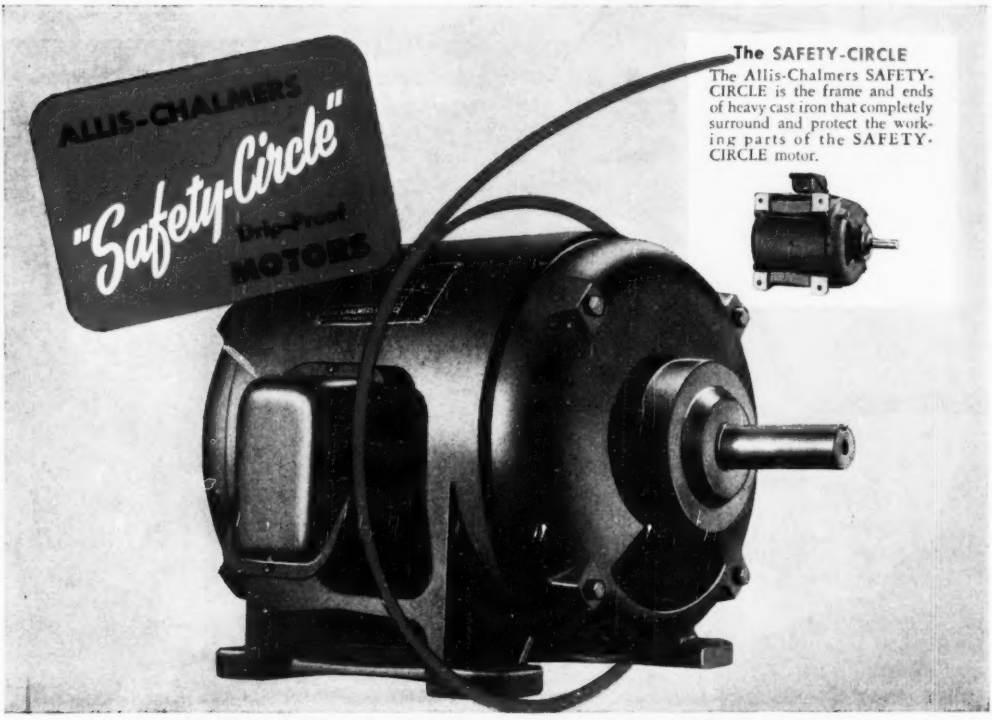
And, best of all, these materials are now currently available through over 100 Graybar warehouse stocks. They can be had without delay and without the added expense of carrying them in private inventory.

Build the modern way with O-B deadend materials--*buy* the modern way through Graybar's national warehouse stocks.

Ohio Brass

MANSFIELD, OHIO

2940-H



The SAFETY-CIRCLE

The Allis-Chalmers SAFETY-CIRCLE is the frame and ends of heavy cast iron that completely surround and protect the working parts of the SAFETY-CIRCLE motor.

SAFETY-CIRCLE means

★ All-Around Protection ★ Low Maintenance ★ Dependable Performance

A-2690

THE SAFETY-CIRCLE MOTOR is protected all around against those four great motor killers — corrosion . . . distortion . . . friction . . . foreign matter. The frame is of cast iron, the most corrosion-resistant material for this purpose. The strength and stiffness of the cast iron is supplemented by ribbing and bracing to maintain alignment and prevent distortion. Ball bearings are lubricated and sealed at the factory. They require no attention for years. End brackets are drip-proof at no premium.

SAFETY-CIRCLE motors are fully protected inside, too. Multiple-dipped and multiple-baked stator plus extra inter-phase insulation provide extra protection against electrical breakdown.

With SAFETY-CIRCLE protection outside and protected working parts inside, you can count on years of trouble-free, low cost power.

For complete details on SAFETY-CIRCLE advantages, see your A-C Authorized Dealer or Sales Office or write for Bulletin 51B6210B. Stocked in sizes 1 to 20 hp. *Safety-Circle*, *Texrope* and *Vari-Pitch* are Allis-Chalmers trademarks.

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TEXROPE — Belts in all sizes and sections, standard and Vari-Pitch sheaves, speed changers.

PUMPS — Integral motor and coupled types. Sizes and ratings to 2500 GPM.

Recent C-E Steam Generating Units for Utilities

DUNKIRK STEAM STATION

BUFFALO NIAGARA ELECTRIC CORPORATION

THE C-E Unit, shown here, is one of two duplicate steam generating units now in process of fabrication for the Dunkirk Steam Station of the Buffalo Niagara Electric Corporation of Buffalo, New York.

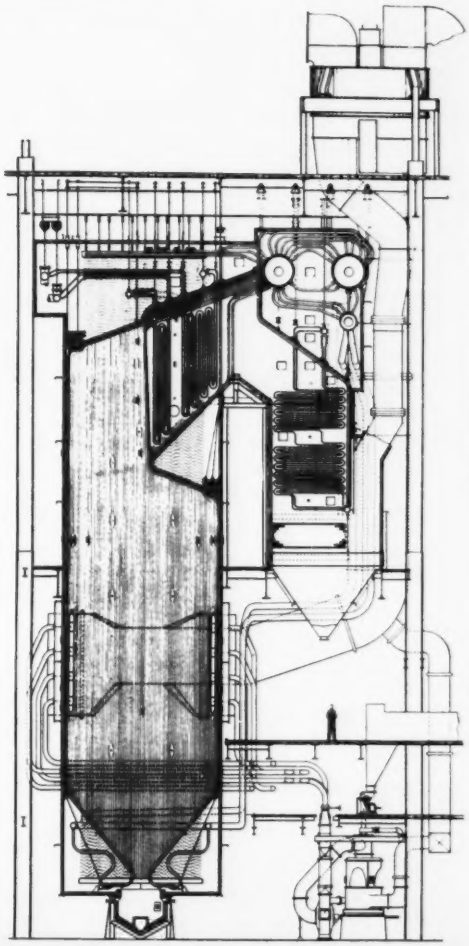
Each of these units is designed to produce, at maximum continuous capacity, 670,000 lb of steam per hr at 1492 psi and 1000 F at the superheater outlet and to reheat 585,000 lb from 701 F to 1000 F and deliver it at 389 psi at the reheater outlet.

The units are of the radiant type with a reheater section located between two stages of the primary superheater surface. A finned tube economizer is located below the rear superheater section, and regenerative air heaters follow the economizer surface.

The furnaces are fully water cooled, using closely spaced plain tubes throughout. They are of the basket-bottom type, discharging to sluicing ash hoppers.

Pulverized coal firing is employed, using bowl mills and vertically-adjustable, tangential burners.

B-319



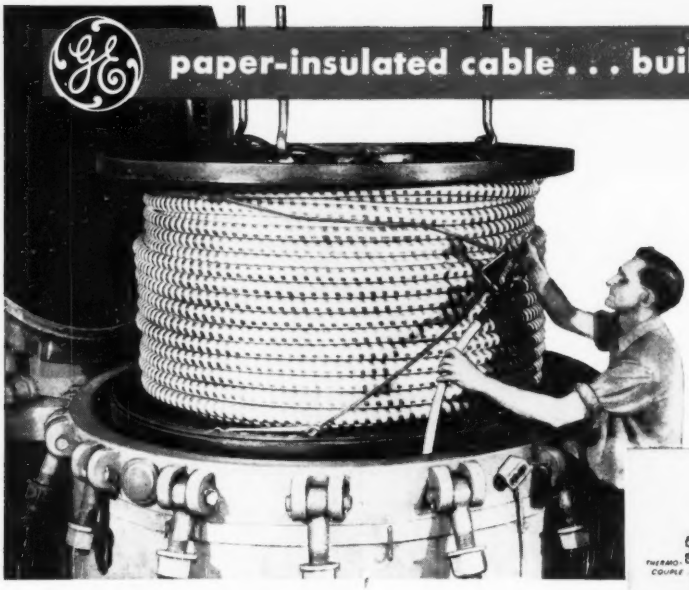
C-E

Combustion Engineering–Superheater, Inc.

A Merger of COMBUSTION ENGINEERING COMPANY, INC., and THE SUPERHEATER COMPANY

200 MADISON AVENUE, NEW YORK 16, N. Y.

paper-insulated cable . . . built for stability



VACUUM-DRIED . . . *electrically*

—to give uniform quality, long cable life!

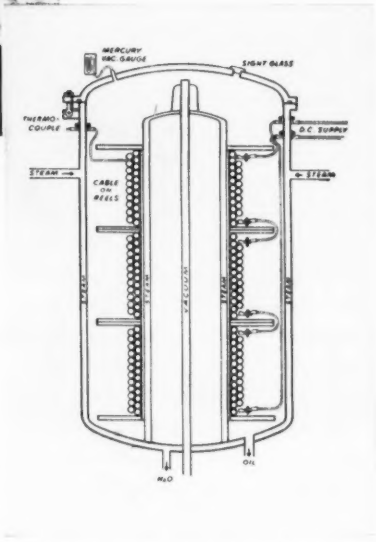
It's only one example, but *electric* vacuum-drying is typical of the extra care that goes into the making of General Electric paper-insulated cable, solid and gas-filled types. By means of this exclusive process, all air and moisture is removed from the assembled cable prior to impregnating, and the cable is heated and dried *uniformly* throughout. This leads to *uniform* quality that assures you of long years of cable service.

Test after test for cable quality!

In many other ways, too, General Electric makes sure of the quality of the cable you get. Over 25 different tests are made on the copper, paper, oil and lead used. Special machines of G-E design, equipped with automatic constant-tension devices, apply paper to the conductors with even-spaced uniformity. Insulation is applied in a special, constant-humidity room, to maintain uniformity of paper tension after moisture is removed.

Complete control for dependability!

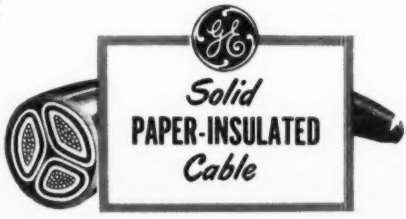
As a further control, each cable is tested 14 different times during manufacture, with over 40 different points checked! With precision methods like these, you can depend on every foot of G-E paper-insulated cable. Check with your local G-E representative on what savings it can mean to you. *Section W36-527, Construction Materials Department, General Electric Company, Bridgeport 2, Conn.*



Here's how it's done!

Before impregnating and leading, reels of General Electric paper-insulated cable are placed in a steam-jacketed drying tank, as shown in photo and diagram above. Conductors are attached to vacuum-tight leads connected to high-current generators. The heat generated is *inside* the cable where it is most effective—assuring uniform heating and drying during the vacuum process. Steam, introduced around the tank and in the center dome, maintains constant temperature throughout the tank. Thus—electrically-uniform heating and drying are obtained throughout the cable's length.

GENERAL ELECTRIC



NEWS ABOUT PEOPLE

Luthringer Elected Head of Central Illinois Utility

(See Front Cover)

Marshall S. Luthringer, production engineer in charge of all power stations for the Central Illinois Public Service Co. Springfield, Ill., has been elected president of the company to succeed the late L. A. Magraw. Edward F.

EDWARD F. KELLY

Kelly, formerly operating vice-president, has been elected to the new office of chairman of the board.

During his more than 23 years' association with the Central Illinois utility, Mr Luthringer has served in capacities ranging from power station laborer to division manager and production engineer in charge of power stations. After occupying several engineering positions in various locations on the company's system, he became assistant to the vice-president in 1932 and later that same year was appointed manager of the new business department. In 1934 Mr Luthringer was named Division J manager with headquarters in Beardstown, the position he held until he was named company production engineer in charge of power stations in 1946.

Mr Kelly became identified with Central Illinois Public Service in 1913, when he entered the commercial department. After service in World War I, he returned to the company as a division manager in 1919. In 1928 he became assistant to the vice-president and four years later was elected vice-president.

A graduate of the Massachusetts Institute of Technology, Mr Kelly had been identified with the New York Edison Co. Consolidated predecessor, earlier in his career in the capacity of industrial power salesman.

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Ege Elected Vice-President Sales, Copperweld Steel

Announcement has been made by the Copperweld Steel Co. Glassport, Pa., of the appointment of William W. Ege to the newly created position of vice-president, sales.

Active in the power, railroad and communication fields throughout the United States, Mr Ege has wide sales

WILLIAM W. EGE

and engineering experience. He was general manager of sales and prior to that was in charge of western district sales with offices in Chicago.

Other promotions announced involve F. E. Leib, who was appointed assistant to vice-president, sales, and P. A. Terrell, who was made assistant vice-president.

Formerly assistant general manager of sales, Mr Leib was Copperweld's representative in Washington, D. C., for several years prior to 1944. Previously, he had been development engineer at Glassport.

Mr Terrell was assistant to the executive vice-president. Before making Glassport his headquarters, he served in important sales and engineering capacities in Washington and Atlanta. In the latter location, he was manager of Copperweld's southern sales district.

Kyle, Jr, Elected President, L-M; Father Made Chairman

W. D. Kyle, Sr. founder of the Line Material Co. Milwaukee, and its active head for 39 years, has retired as president of the company. He will continue to take part in company affairs as

WILLIAM D. KYLE, JR.

chairman of the board of directors. His son, W. D. Kyle, Jr. who for the past two years has been executive vice-president and assistant to his father, has been elected to the presidency.

In his leadership of the company,

WILLIAM D. KYLE, SR.

the senior Kyle has directed Line Material's growth from a small shop in South Milwaukee, to nine manufacturing plants in six states and Canada today, employing more than 3,000 persons.

After a period with the Wisconsin

Electric Power Co, the new president joined Line Material in 1937 to engage in engineering and administrative work. In 1941 he became president of the Kyle Corp and served in that capacity until the company was merged with Line Material in 1947. He has since served as executive vice-president.

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Altenbern Made President, Wisconsin Utilities Group

Carl A. Altenbern, vice-president and secretary of the Wisconsin Southern Gas Co. Burlington, has been elected president of the Wisconsin Utilities Association for 1949-50, succeeding William E. Schubert, who assumes the chairmanship of the association's advisory committee.

Alfred Gruhl, assistant vice-president, Wisconsin Electric Power Co, has been elected vice-president succeeding Mr Altenbern.

Paul J. Imse, secretary and treasurer of the Milwaukee Gas Light Co, was reelected treasurer.

Mr Altenbern is a member of the National Society of Professional Engineers and is now president of the southeast chapter of the Wisconsin Society of Professional Engineers.

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O. T. Fitzwater, formerly treasurer and assistant secretary of the Indianapolis Power & Light Co, has been elected a vice-president of that utility. He will now serve as vice-president and treasurer.

Fons J. Hughes has been appointed by Pacific Power & Light Co to head its system-wide safety program. Mr Hughes was formerly assistant supervisor of industrial safety with the Washington state department of labor and industries.

E. Kelly has been named acting general manager of the Loup River Public Power District, Columbus, Nebr., following the recent death of Harold Kramer. Mr Kelly will continue to be secretary and purchasing manager of the district.

Ward F. Davidson, research engineer, Consolidated Edison Co of New York, recently delivered the Supply Section Annual Lecture before the Institution of Electrical Engineers in London, England. His subject was "Plant Coordination—an Example of Cooperation." The Supply Section Annual Lecture is given by an engineer invited from overseas. This was the first lecture by an American.

Salsbury Made President, Electrical Wholesalers

David M. Salsbury, president of the Westinghouse Electric Supply Co, New York, was elected president of the National Electrical Wholesalers Association at the annual convention held recently in Cincinnati.

DAVID M. SALSBURY

Mr Salsbury became president of WESCO last year. He had been connected with the organization in the West early in his career, but in 1943 when he was appointed general manager he moved to the New York headquarters office. The following year he was elected vice-president and in 1946 executive vice-president.

While in the West, Mr Salsbury had served as branch manager in Salt Lake City and North Pacific District manager with headquarters in Seattle.

OBITUARY

Paul A. Lockwood, New England sales manager of Hubbard & Co, Pittsburgh, Pa., died on May 7. Mr Lockwood had been identified with Hubbard & Co for 20 years.

Charles J. Hatch, for many years a member of the power sales department of the Boston Edison Co, died at Brookline, Mass., on Apr 8. He was active in the municipal customer field and during 32 years with the company was widely known in utility circles in New England. He retired some years ago.

Russell G. Swan, one of Canada's leading engineers in the field of hydroelectric power development, died on Apr 27 at the age of 61. His basic hydraulic studies were credited with development of power on several Quebec rivers. Mr Swan retired in 1942 as manager of the water resources department of the Shawinigan Water & Power Co. He obtained his early experience with the old federal department of the Interior and as chief engineer for the British Columbia and Yukon district he directed the studies which have since been used in various power developments, irrigation and flood control projects along the west coast. He joined Shawinigan in 1925.

Royal D. Webster, for the past five years vice-president and manager of the Northampton (Mass.) Gas & Electric Light Co, died on May 12 in that city after a long illness. Mr Webster was 59 years old.

V. M. Johnson, general manager of Consumers Public Power District with headquarters at Columbus, Neb., died in that city on May 3 after an illness of a year. Mr Johnson was president of Central Power Co, Grand Island, Neb., a subsidiary of Middle West Utilities Corp, when it was bought by Consumers in 1941. He then became Consumers general manager.

Fred C. Albert, who retired in 1947 as chief hydraulic engineer of the Loup River Public Power District, Columbus, Neb., died in that city on May 10. He was 58 years old.

Howard W. Kelsey, who was associated with the National Electrical Manufacturers Association, New York, as director of its safe electrical cord program, died on May 15 at his home in Queens, N. Y. He was 53 years old.

Joseph H. Fall, Jr., chairman of the board and treasurer of the Benjamin Electric Manufacturing Co, Des Plaines, Ill., until his retirement in 1944, died on May 12 at his home in Evanston, Ill., following a long illness. He was 73 years old. Mr Fall was president of the Royal Enameling & Mfg Co until it was consolidated with Benjamin Electric in 1918. He had been active in the affairs of the industrial lighting equipment section of the National Electrical Manufacturers' Association and was one of the founders of the RLM Specification-Certification Program and of the RLM Standards Institute, Inc.

William E. Ross, assistant to the president of the Canadian General Electric Co, died on May 5 in Toronto. During World War II, Mr Ross served as director of Research Enterprises and as administrator of electrical equipment and machinery for the Prices Board. Born in England, he came to Canada in 1911. He was active in the Canadian Standards Association and was a member of the Engineering Institute of Canada.

NEW EQUIPMENT

Explosion-Proof Heater

HEATING of hazardous locations classified as Class 1, Group D by Underwriter's Laboratories may be done safely and economically with an all-electric, explosion-proof, convection heater, according to the manufacturer, Electromode Corp, 45 Crouch St, Rochester 3, N. Y. It may also be used where highly flammable substances are manufactured, handled or stored in other than their original containers.

Heating element consists of a nickel-chromium wire, insulated in seamless metal tubing embedded in a one-piece finned aluminum casting. Heaters are available in ratings of 2 and 4 kw, 240 and 480 v, single-phase; 6 kw, 240 and 480 v, 3-phase.

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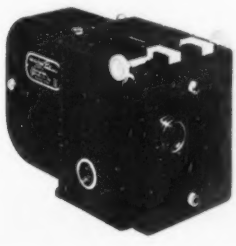
Recording Camera

FOR automatic photo recording of readings on meters and manometers or tracings on oscilloscopes, a recording camera, Varitron Model C, is produced by Photographic Products Inc, 955 N. Mansfield Ave, Hollywood 38, Calif.



In operation the camera is controlled by an electric current, radio signal, sound or any phenomenon that can be conterted into a mechanical or electrical pulse. Film magazines may be had for either 35 mm or 70 mm sensitized stock, paper or film, perforated or unperforated. The camera operates from a 110—120-v, 50-60 cycle power source.

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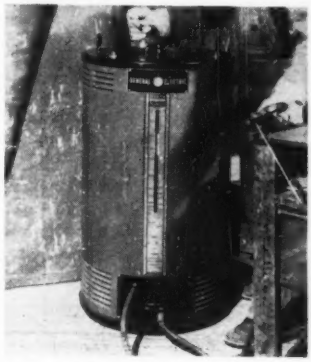
A-c Arc Welders

FEATURING a wide welding range and stepless current control, a-c arc welders have been announced by General Electric Co's Welding Divisions, Schenectady 5, N. Y. Built-in power factor correction decreases power consumption and up-draft fan-assisted ventilation assures cool operation.

Units are available in 200 to 500-amp models for indoor manual welding; 750 and 1,000-amp models for machine and submerged melt welding; and a special 200-amp model for light-duty, job-shop welding. Publication GEA-5279 contains more information.



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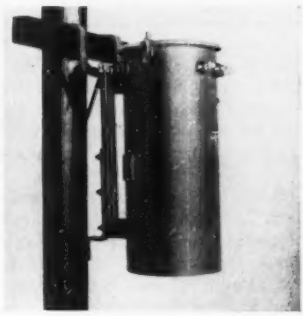
Dry Type Transformer

UTILIZING AIR as its only cooling medium, dry type distribution transformer Type ACO is available in sizes to 100 kva and voltages to 5 kv from Marcus Transformer Co, Inc, 32-34 Montgomery St, Hillside 5, N. J.



According to the manufacturer, the use of superior Class B and C heat-proof insulation, such as Fiberglas, mica, porcelain and J-M Quinterra, has resulted in a unit that withstands overloads which would damage an ordinary Class A insulated oil-filled unit. Transformer element is seal-protected against oil, moisture and acids and is housed in a weatherproof case conforming with EEI-NEMA standards.

•

Hot Tap Clamps

TWO SIZES of hot tap clamps have been designed by Binkley Mfg Co, Warrenton, Mo., which have rugged bronze bodies and seats. The screws are of high strength silicon bronze, to give adequate screw strength while maintaining an eye size that fits all clamp sticks and switch sticks. The small clamp can be used on conductors up to 2/0 copper or 1/0 ACSR, while the large one handles up to 400 Mcm copper. Both clamps are also available in an "all connection" series, with zinc-coated bodies, seats and jumper lugs, for use with other conductors.

ELECTRICAL BUSINESS OUTLOOK

INDUSTRIAL PRODUCTION has taken a real drop. The Federal Reserve Board's index plummeted to 179 for April. That's off 3% from the March figure, and 8% below the peak of 195 reached last October. And production in May probably slumped further.

This is a bigger decline than most observers had realized. Unemployment is still low. And the movement of goods in retail trade is close to last year's rate. But factory output is lagging. Evidently many plants are running shorter hours, even though they have kept most of their workers.

Shorter work-days cut down industrial power use. Machines run less. And less lighting is needed. Particularly important to the power industry is the gradual decline in steel operations. In the latest week reported, steel mills ran at 96% of capacity. Not long ago the steel rate was 100%.

Total power use, however, continues to hold up better than industrial production. That's partly because the slackest segment of industry, textiles, isn't much of a power user. Despite some decline, such heavy power customers as chemicals, steel, and the petroleum refiners are holding up pretty well.

Another reason is the continued addition of residential and commercial customers. Fewer homes, stores and offices have been constructed than in 1948. But the number is still more than enough to offset a moderate decline in industrial power use.

Some easing in industrial power loads may actually benefit the electric utilities in financial terms. High cost capacity can be placed on a stand-by basis, raising the margin of profit on remaining power sales. For some companies this could result in more rather than less profit. Moreover, if power use rises more gradually, new construction may be better spaced with less immediate financial strain.

Power use is due to drop seasonally in the summer months. But the drop may be more than seasonal this year if industrial production continues to drift downward. Last year power consumption was stimulated by unusually high steel output during the summer. But this season there's a chance the steel rate will go off sharply. There will be some additional demand for air conditioning and irrigation. But it may be that power output figures will not top 1948 much longer.

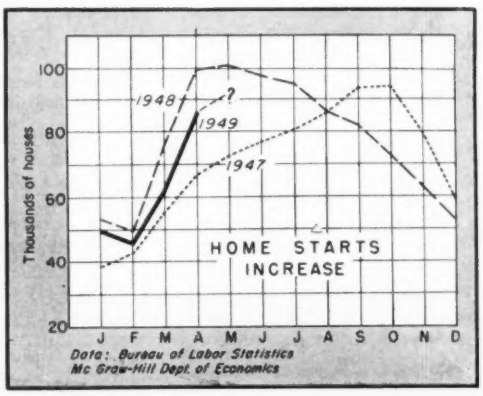
LABOR TROUBLES could put a considerable crimp into business activity this spring and cut down power consumption. Labor contracts are coming up for discussion in the heavy industries. And neither side is in a mood for concessions. Ever since VJ-Day, it's been easy to settle contracts with a wage increase followed by higher consumer prices. But that can't happen this year. Most lines call for price cuts.

This raises the possibility of serious strikes if unions stick to their demands for increased wages and pensions. (There's also a chance that such wage boosts would stick business with high manufacturing costs and prevent the price cuts which seem necessary to sustain sales volume for many items.) Either way, lower industrial activity would hit power use.

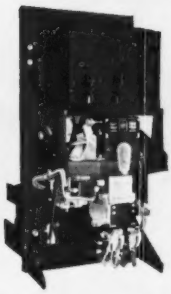
COPPER PRICES have evidently made their low for the time being. After a long period of hesitation, refiners have dropped the price to 18¢. New orders for the red metal have finally picked up. And the price of copper scrap, which declined in advance of the regular copper price, has now turned up.

This is a sign that the skidding market in non-ferrous metals may be about to stabilize. Lead and zinc prices may already be lower than long term demand will justify. But steel prices still haven't cracked. Whether or not steel gets cheaper will depend on the outcome of wage negotiations and on the rate of steel operations in the next few months.

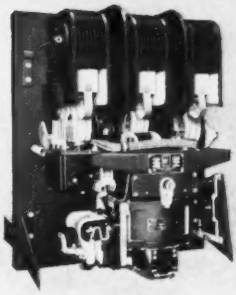
HOME STARTS shot upward in April, as the spring pick-up in building activity got under way. The homebuilders are putting up fewer houses than last year. But that's partly because the season got off to such a big start in 1948. Later last year, it fell off sharply. On the other hand, in 1947, building started slowly, held up better later on. So far 1948 figures have been midway between the two extremes. If this trend continues (chart), 1949 will see nearly as many new homes built as 1948.



The *extra quality* built into I-T-E Air Breakers

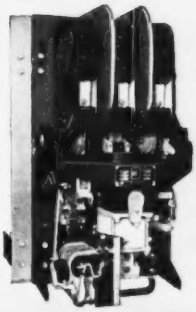


15,000 RMS Amp. Interrupting Rating. 225 Amp. Continuous Rating. 2, 3, or 4 Poles. Manually or electrically operated.

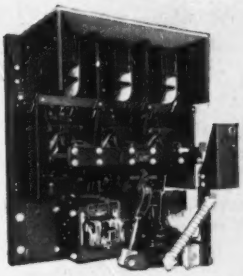


TYPE KC

50,000 RMS Amp. Interrupting Rating. 1600 Amp. Continuous Rating. 2 or 3 Poles. Manually or electrically operated.



25,000 RMS Amp. Interrupting Rating. 600 Amp. Continuous Rating. 2, 3, or 4 Poles. Manually or electrically operated.



TYPE LO

100,000 RMS Amp. Interrupting Rating. 6000 Amp. Continuous Rating. 2, 3, and 4 Poles. Electrically operated.

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➡ These four circuit breakers were specially developed by I-T-E to protect feeder circuits and main circuits of medium capacity systems. They are typical of all I-T-E Air Circuit Breakers in that every one gives you important construction extras. Moving parts are heavier and stronger. Contacts combine speed with positive action. Arc chutes are designed and built better in every way for safer, quicker arc extinction. For any low-voltage application, the I-T-E construction extras — which you get without extra cost — make I-T-E Air Circuit Breakers unsurpassed for dependable performance . . . make I-T-E Multumite your best Switchgear buy!

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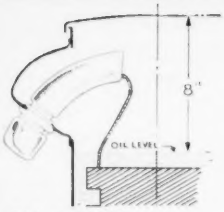

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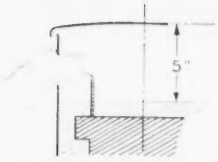

NEW BUSHING saves up to 3" in tank height . . . eliminates need for bushing pockets.

EXPLODED VIEW shows the simplicity of the new bushing clamping arrangement.

A-2704

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ALLIS-CHALMERS NEW TANK-WALL BUSHING eliminates all need for high voltage bushing pockets . . . enables up to 3" reductions in tank height. This means even greater compactness . . . easier handling distribution transformers than ever before! (Reductions are *in addition* to savings in size and weight through use of highly oriented core steel.)

Installation of the bushing itself is simplified because there are fewer parts, and no critical porcelain tolerances between bushing and keeper. A cushion-like spring on the inner side of the tank wall, between the keeper and bushing absorbs any shock or strain during handling. Increased wall thickness of the bushing, together with straighter, shorter shank contour, increases mechanical strength.

AVAILABLE ON UNITS UP TO 150 KVA

The new design is available on transformers from 3 to 100 kva, single phase, and from 9 to 150 kva, three phase, in voltages up to 4800/8320Y.

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